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After the Storm:
planning for disaster

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carolina planning

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staff

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editor's note

Crisis planning is, by its very nature, a paradoxical expression of the planning process. As planning professionals, we are accused of short-sightedness in the wake of community emergencies. This challenge to our purpose is, of course, familiar. We are accused of short-sightedness in our most routine zoning reviews. The planner's dilemma? Indeed, we are prisoners of necessity and captives of precaution.

For the most part, the conflict associated with crisis planning and emergency planning is related to the frailties of the "long-range comprehensive process" which characterizes our mission. It is a conflict empowered and crippled by politics; a conflict of financial and social priorities. The "long-range" is discounted as a frivolous and unknowable perspective. "There is so much to be done now. . .", the public bureaucracy cries, "how can we afford the *luxury* of a disaster plan?" Luxury becomes necessity only in the aftermath. The disaster provides for itself. Community response to life-threatening emergencies provides a context for future planning. In many cases, however, the unwanted education of one community is rarely exchanged with cities and towns still waiting their turn.

In this issue of *carolina planning*, some of the lessons of disaster and emergency planning are discussed. In two articles, researchers at the Center for Urban and Regional Studies at the University of North Carolina at Chapel Hill describe hurricane planning and development management efforts of disaster-prone coastal communities. The process of reconstruction and the planning strategies which some of these regions have adopted to mitigate the costs of severe storms are recounted by Hegenbarth/Brower and Beatley/Godschalk with unexpected conclusions. In a related piece by Kartez et al., western cities subject to periodic disasters (earthquakes, flooding, hazardous technology failures, etc.) are surveyed to determine the extent of their preparedness. In all three articles, substantive recommendations are made to inspire improved emergency planning efforts in local communities.

Contributions by Dusenbury and Gelblum balance the issue with more traditional planning concerns. Dusenbury reviews the history of the Regional Coastal Commission and critiques its weak commitment to regional planning. Gelblum considers the role of planners in community dispute resolution; concerns of political planning.

As a whole, this issue explores the contradictions of long-range planning relative to the divergent public investment goals, political priorities, and technical capacities of local communities. It is an attempt to assemble the work of planners concerned with the extremes of community planning and development. As we share the experience of planning extremes, our local and more immediate actions are expanded and enhanced. The long-range plan is made real from historical events and human response.

Ted Olin Harrison
Editor

In the Works

Planning for Water Quality in the Coastal Zone

Kathleen Leyden

Water quality management regulations in the State of North Carolina have traditionally been administered by various state agencies including the Department of Environmental Management (DEM permits for surface water discharges and groundwater regulations), the Division of Health Services (large sewage disposal systems), and by local governments (local health department permits for septic systems and land use planning regulations that address watershed protection). In North Carolina's coastal zone, land use planning for the protection of water quality has been addressed at the state level since 1979. Sedimentation controls and limitations on impervious surfaces along estuarine shorelines were imposed by the Coastal Area Management Act (CAMA). A broader initiative was needed, however. In response the Division of Coastal Management (DCM) and the Coastal Resources Commission (CRC) agreed that coastal water quality and, in particular, the impact of non-point source pollution on coastal waters should be the priority issue for the 1985 agency work program.

In order to identify water quality problems on the coast, and to obtain public input on the issues, a series of "Roundtable" discussions were held during October, November and December of 1984 at three locations on the coast. Nearly 200 people representing a broad diversity of interests including local governments, industries, and environmental groups participated in the forums. Uncharacteristic of many participatory events, attendance at each subsequent meeting grew. The discussions sought to derive useful recommendations for the DCM and the CRC, and did not involve heated debates over the mechanics of regulatory controls.

A broad objective of the work groups was that water quality planning should achieve a balance between development, agriculture and fisheries, while still providing for economic development on the coast and the protection of the coast's more traditional uses. The water quality problems deemed of critical importance were ranked in order of prior-

ity by the representatives of each coastal region (North, Central and South). Recommendations for waste research, education and management strategies were made for each issue. Priority concerns among Roundtable participants were non-point source pollution, groundwater management, basin-wide pollutant loading, coastal development densities, citizen education, cumulative impacts of development, waste disposal, wetland loss and comprehensive management of water resources.

One of the more innovative recommendations made by the Roundtable representatives involved devising a methodology which would monitor the cumulative effect of development in a drainage basin as it occurs over time. The fact that water quality impacts from development are presently regulated on a permit-by-permit basis was considered a critical problem. Under a "regional threshold" concept, permits for new development might be issued on the basis of projected growth patterns and resource needs. Additional research and modeling in the area of land use/water quality relationships would be necessary to carry out this initiative.

Many of the Roundtable groups' recommendations call for increased funding for projects by the state legislature. One such recommendation is for the expansion of the cost-sharing program administered by the Division of Soil and Water Conservation in "nutrient sensitive" watersheds. The focus of the program is the reduction of non-point source pollutants through the use of "best management practices" (grassed waterways, filter strips, no-till farming, etc.) on agricultural lands. The cost-sharing program covers 75% of the cost of a participating farmer's project. Currently, only the Falls Lake, Jordan Lake and the Chowan River watersheds are designated as "nutrient sensitive". Expansion of the program watersheds would positively affect coastal water quality.

One of the more controversial issues addressed at the Roundtable series involved the limitation of development densities in the coastal zone. Although

Kathleen Leyden received her Master of City Planning from the Department of City and Regional Planning at the University of North Carolina at Chapel Hill. Leyden is currently a member of the Orange County planning staff in Hillsborough, North Carolina.

environmental
management

regional threshold
concept

cost-sharing programs

acceptable regulations

Carol B. Solow received her Master of Social Work from the University of North Carolina at Chapel Hill in May 1985 with a concentration in community economic development. For the past two years, Solow has worked closely with the Alamance Workers Owned Knitting Company as well as a number of worker-ownership support groups throughout the state.

replicable models

local governments take the lead in controlling densities, the Roundtable participants suggested that the CRC could have considerable influence in this area by strengthening its guidelines through the land use planning process. Under the provisions of CAMA, localities in North Carolina's coastal zone are required to prepare land use plans according to guidelines set by, and subject to the approval of the Division of Coastal Management and the CRC.

Coordination with other government agencies is one of the most difficult obstacles to the development of reasonable water quality and land use standards. The implementation of those regulations is the next worst problem. The CRC has taken an ag-

gressive stance on water quality issues by adopting a schedule to address the Roundtable series recommendations. Non-point source pollution and storm-water runoff have since been addressed and DCM staff anticipate that new standards will be in place by late summer 1985. However, achieving the goals outlined in the participatory process will involve a cooperative effort with DEM, the Environmental Management Commission and funding sources.

The complete summary of the Coastal Roundtable Series is available from the Division of Coastal Management, NC DNRCD, P.O. Box 27687, Raleigh, N.C. 27611-7687 (919-733-2293).

Opening Closed Doors: Worker-Ownership Initiatives

Carol B. Solow

Planners in states and regions where plant closings have had a devastating impact on the economic and social health of their communities are struggling to develop viable long-term job creation and retention strategies. Worker-ownership is one strategy that has gained recognition as an effective economic development program for some communities. Successful models for regional economic cooperatives remain, however, relatively undeveloped. An exemplary and potentially replicable model for economic development planners is the worker-ownership support agency network in North Carolina.

In North Carolina, over 14,184 jobs in 101 plants, primarily textile and furniture-based, were lost in 1984 due to shutdowns. A number of organizations are responding to this crisis of dislocated labor by providing intensive financial management, educational, and organizational development assistance to existing and emerging cooperatives. As a result of coordinated efforts, over one dozen worker-owned businesses, ranging in size from three to fifty employees, are currently operating throughout the state.

The organizations promoting worker-ownership in North Carolina are committed to worker-ownership as an economic development tool and as a means of extending decision-making roles to a wide range of labor participants. A support network has developed from the shared efforts of these organiza-

tions. Their primary work has involved small business management and financial technical assistance. It is complemented by on-going education and training in interpersonal dynamics and group decision-making. Since 1980, the Durham-based Center for Community Self-Help has been instrumental in developing both types of assistance.

A Worker-Ownership Development Model

The Center for Community Self-Help was formed in 1980, by Martin Eakes, with the goal of facilitating grassroots economic development in North Carolina. The Center was designed to provide technical assistance, community education, and policy and financing mechanisms appropriate for small scale development assistance. Today, the Center and the Self-Help Credit Union are instrumental components of the state's worker-ownership support system.

The Center responds to requests from existing cooperatives, community members interested in creating jobs, and business proprietors proposing to sell their companies to employees. The many tasks associated with organizing a worker-ownership enterprise are frequently intimidating. Worker-ownership is often thwarted by the legal and financial requirements of the process. To mitigate these concerns, consultants are assigned to assist groups in preparing



Space Builders — a worker owned design & construction firm.

business plans and finance packages for lenders. Staff members work with the business consultants to ensure the project's effective planning. Technical assistance is also provided as cooperatives evolve from the planning to operative stages. The staff advises the incorporation process and provides on-site training. Most training focuses on group decision-making and conflict management.

Among the most difficult constraints on worker-ownership development involves the acquisition of sufficient and appropriate sources of financing. Traditional lending institutions often prove unwilling and/or unable to offer reasonable loans to fledgling firms. In response, the Center formed the Self-Help Credit Union in January 1984 to provide an alternative source of funding for worker-ownership projects. To date, the Center has successfully marketed the Credit Union as a way for churches, foundations, and individuals to support community economic development through loans to North Carolina cooperatives and democratically-managed businesses.

After less than two years, the Credit Union has secured over \$4.2 million in deposits. A recent boost

to the assets of the Credit Union is an agreement with the North Carolina State Employees Credit Union to enable state employees to make deposits to the Self-Help Credit Union through the State Employee Credit Union branch offices. State Credit Unions are one example of the type of resources that community economic development planners can access.

small scale development
assistance

The movement to socially responsible investment by institutions and individuals is gaining attention throughout the country. The development of a state worker-ownership credit union is a feasible tool to transform social investment commitment into regional grassroots job-creation capital.

Coordination with Additional Resources

The Center for Community Self-Help and the Self-Help Credit Union are key organizations in North Carolina, but they alone do not provide the full range of skills and assistance that economic development for worker-ownership requires. Other or-

socially responsible
investments

continued on page 44

The Brief Life and Hard Times of the Coastal Plains Regional Commission

Pat Dusenbury

Pat Dusenbury received her Master of City and Regional Planning from the University of North Carolina in 1977. Ms. Dusenbury has since been employed with the Southern Growth Policies Board and the Research Triangle Institute. While at the Southern Growth Policies Board, she served as Project Director for the Task Force on Southern Cities for the 1980 Commission on the Future of the South.

Dusenbury's history of the Coastal Plains Regional Commission highlights the contributions made by this federally-funded economic development agency as well as traces the steps to its federally-ordered abolition. Her thorough description of the agency's demise dismisses the possibility of drawing the most obvious, but inaccurate, conclusion — that regional economic development planning is ineffective. Rather, this agency's loss of commitment to planning and preoccupation with survival account for its deserved end.

Introduction

The Coastal Plains Regional Commission (CPRC) was one of five regional commissions established in July of 1967 under Title V of the Public Works and Economic Development Act of 1965. Its territory encompassed the coastal area of several southern states inland to the beginning of the Piedmont. The Commission's purpose was to accelerate economic development in the Coastal Plains Region, to reduce the extensive poverty and to raise the income levels of the people living there. Governors of the member states plus a federal co-chairman appointed by the President made up the Commission. Within a year, the CPRC was staffed and functioning.

Just fourteen years later, in July 1981, the bell tolled for CPRC as President Reagan's proposed abolition of the Title V Regional Commissions became law. This was not the first attempt to do away with the Title V Commissions. Eight years earlier, President Nixon had made a similar but unsuccessful proposal. The outcome was different in 1981.

Once the end of the Title V Commissions was mandated, the CPRC acted quickly. All but a skeleton staff retained to close down the Commission were given notice. Most on-going CPRC projects were terminated, and the Commerce Department took over those few projects that were not at a point where they could be closed out. Some of the remaining Fiscal Year 1981 funds were allocated for an eval-

uation of the Coastal Plains Regional Commission. As part of the Southern Growth Policies Board staff at that time, I participated in the study. This article describes the Commission's history in terms of its effect on coastal policy, and attempts to assess its work relative to future coastal regional planning efforts.

Coastal Plains Regional Commission Goals

The Public Works and Economic Development Act of 1965 includes the following statement of purpose:

to provide grants for public works and development facilities, other financial assistance and the planning and coordination needed to alleviate conditions of substantial and persistent unemployment and underemployment in economically distressed areas and regions.

Passed as part of the War on Poverty, the Act embodied the political belief that the federal government should work with states to encourage development in areas with economic problems. Title V of the Act was an expression of faith in the value of a regional approach to problems that crossed state lines — both for action and planning. Inspired by the success of the Appalachian Regional Commission, it authorized the Secretary of Commerce to designate interstate areas of lagging economic development as economic development regions, and with

accelerate economic development

faith in regional approaches



North Carolina beach development

the states, to establish regional action planning commissions in those areas. The Title V Commissions were to (1) provide an interstate mechanism for planning, technical assistance, and demonstration projects; and (2) channel federal economic development funds into their regions.

The Coastal Plains Regional Commission expressed the same goal throughout its fourteen years. The first annual report noted that residents of the Coastal Plains area had a per capita income more than \$1,000 below the national average. "To reduce and eventually eliminate this gap is the fundamental goal of the commission partnership." Encouraging economic development was seen as the means for achieving that goal. While the Commission goal came to be expressed in more detail, the intent remained the same. The last annual report stated:

These then are the goals of the Coastal Plains Regional Commission:

1. *To give the people of the region greater opportunities to find employment at the highest level of their capabilities.*
2. *To help individuals bring their skills to higher levels of competence.*
3. *To provide increased opportunities for individuals to earn higher incomes.*

4. *To help communities provide those services that enhance their economic potential.*

Coastal Plains Regional Commission Programs

Within its geographic boundaries, the CPRC provided funds for technical assistance and supplemental grants as defined by Sections 505 and 509 of the enabling legislation. Section 505 funds financed technical assistance for economic development programs. Eligible activities included planning, research, studies, and demonstration projects, including the construction of public facilities. Section 509 authorized supplemental grants to help state and local governments leverage federal grants from other sources. The premise behind the supplemental grants was that insufficient local resources prevented the neediest places from participating in the numerous federal grant programs that required some local matching funds. Originally, the Coastal Plains region encompassed 159 counties in Georgia and the Carolinas. It was expanded in 1975 to include eastern Virginia and northern Florida, again in 1976 when 50 more counties in Georgia and South Carolina were added, and again in 1980 to take in the rest of Florida.

interstate mechanisms

supplementing the
neediest

a sense of direction

encouraging job development

designing appropriate responses

During the early years of the CPRC, regional development planning commanded a large share of the Commission's resources and produced sophisticated economic plans for the leading sectors of the region's economy. Those plans, which were formally endorsed by the member states, supplied a clear sense of direction for CPRC activities even though the program areas addressed by CPRC, like the regional boundaries, evolved over time.

Initial CPRC priority areas were industrial development, supportive facilities and services and policy development. A variety of programs were subsumed under those headings. For example, industrial development projects included general industry, agriculture and forestry, marine industries, travel and tourism. Program areas were incrementally modified and expanded during the early years of the Commission; and then in Fiscal Year 1974, in response to the presidential attempt on the Commission's life, there was a major reorganization. Transportation, health, housing, and human resources programs were discontinued. The more job-related programs were retained and divided among five major program categories—industrial development, marine resources, agriculture and forestry, environmental affairs, and travel industry development—a structure that persisted until the Commission was dismantled in 1981.

Post-Reorganization Regionalism

The CPRC regional planning function was weakened by the 1974 reorganization but survived in the work of its advisory committees, which were appointed by the Governors in each program area, and of the CPRC staff. Because the advisory committees included people from the public sector, academia, and the business community in all the member states, they provided the CPRC a forum for both interstate and public-private cooperation. The advisory committees concentrated on regional programs, developing projects and acting as advocates for them in the review process.

Each advisory committee submitted a written annual report setting forth (1) economic development priorities for their program area; (2) possible courses of action relating to those priorities; and (3) resources—national and regional, public and private—that could be used to address the priorities. CPRC staff supported the advisory committees by helping them monitor trends, define problems, consider alternative responses, and where appropriate,

prepare proposals for projects. Projects involving just one state were referred to that state; projects involving two or more CPRC states were considered regional projects and proposed to the Commission.

Regional projects had to submit to a vast maze of reviews and approvals. First, the advisory committee submitted a proposal to the Commission itself; that is, the Governors and the federal co-chairman. If the review was favorable, the proposal was sent back to the Advisory Committee, which, with the help of CPRC staff, developed a formal application for funding that was submitted to the CPRC. The federal co-chairman then sought approval from the parent agency, the Department of Commerce. Only projects that survived this review were eligible for funding. Final funding decisions were made through a hierarchical budgetary process. After administrative costs were covered and funds set aside for state development planning, money was allocated to regional projects, and then the remaining money was divided equally among the member states for state economic development projects in their CPRC counties.

As a regional economic development agency, the Coastal Plains Regional Commission occupied a tenuous position between the federal government and the states. The importance of planning in this position is revealed by the history of the CPRC as it allowed its plans to run out. After the Fiscal Year 1974 reorganization, the CPRC devoted few resources to planning; it was no longer an ongoing activity. The advisory committees and the staff did some planning, but mostly, they followed the plans produced in the earlier days of the Commission. Once the ideas and projects from those plans had been implemented or discarded, the advisory committees—reflecting the Commission itself—lacked a clear sense of direction and were reduced to simply passing through federal funds to the member states.

The existence of a comprehensive development plan endorsed by the states had protected the CPRC from state raids on its funds. But as the plans aged, it became harder to justify regional projects, and a growing share of CPRC funds was simply divided among the member states to become in the words of one disaffected ex-employee, "a governors' slush fund."

Budget trends describe the transition of the CPRC from a regional economic development agency to a conduit for federal funds. In the late seventies, the share of the budget going for regional projects dropped precipitously. Several regional projects were

divided up among the states to implement as they chose. Problems were most severe in the area of environmental affairs, which as a post-1974 program area had no comprehensive plan to guide its activities and was beset by conflicting opinions about its mission.

The CPRC was undermined further by the 1977 indictment of the federal co-chairman on charges of conspiracy and conflict of interest. Although he later won an appeal of the verdict, the CPRC's credibility was irreversibly damaged.

Decline and Fall

The final decline of the CPRC can be traced through the fortunes of its advisory committees, which along with the staff, were advocates for the regional aspect of the CPRC programs. When the regional approach was downplayed after the Fiscal Year 1974 reorganization, the advisory committees gradually became less productive. For a few years, they could proceed on the basis of the planning done in the early years of the Commission, but when those plans were not updated, the advisory committees floundered. Essentially, the advisory committees supported the CPRC as long as the Commission supported them.

The diminishing productivity of the advisory committees frustrated their active members, and that frustration was aggravated by the multi-layered approval process which had no provision for explanations or other feedback when a project was rejected. Moreover, the budget process itself mitigated against funding regional projects. The complexity of the approval procedures allowed a lack of accountability for decisions, which undermined the whole process further. To be effective, the advisory committees needed plans that they could not produce themselves. They needed plans to guide and then to justify project proposals. Those plans needed to bear the imprimature of the Commission itself—the governors, not just their appointees.

The Fiscal Year 1974 reorganization was a response to diminishing federal support for regional economic development, but it was also a statement of priorities for the resources that the Commission did command. The advisory committees and the CPRC staff felt the impacts of weakening the regional focus first: the staff was charged with getting the money out to the states with less emphasis on fostering regional economic development, the states set their own project priorities, while the ever-

expanding CPRC boundaries reduced the geographic limits on state spending decisions; the advisory committees, which were the structural expression of regionalism, became ineffective. After the CPRC lost its regional perspective, it lost its *raison d'être*.

When President Reagan proposed doing away with the Title V Commissions, there was little resistance in the Coastal Plains Region. The CPRC was much less than had been envisioned originally and so weakened by state intrusions that few people protested. Rather than say that the Reagan Administration killed CPRC, it is probably more accurate to say that it just removed the corpse.

Post Mortem

The Coastal Plains Regional Commission did not disappear without a trace. Several projects sponsored by the CPRC during its short lifetime endure as does the information in numerous CPRC-sponsored studies. Brick and mortar monuments to the CPRC include the marine resource centers, which attract tourists and are especially beloved by parents who encounter bad weather at the beach. There are the more prosaic monuments, water and sewer systems in the Coastal Plains Region built thanks to matching grants through the CPRC. Impossible to measure but none the less important, is the contribution of CPRC to interstate cooperation in economic development efforts. Residents of coastal states who worked together on advisory committees still share the common interest and concerns they addressed together as committee members.

The history of the CPRC, like history in general, contains lessons for the present. It is important to take a close look at what occurred to avoid what may be the most obvious but also inaccurate conclusion, that regional economic development planning does not work. A closer look reveals an economic development planning agency that lost its commitment to planning, even in its own activities. The CPRC, as it existed in 1981, had replaced planning with simply trying to stay alive; it deserved to die. It would be unfortunate and unfair if the concept of interstate planning is discredited by CPRC's brief life. The Coastal Plains Regional Commission has gone away, but the need for interstate approaches to economic development, human resources, and resource management endures along with the poverty that has characterized the region throughout this century.

weakened regional focus

monuments of their effort

lost commitments to planning

Sharing Emergency Planning Assumptions Management Views Differ

Jack D. Kartez
Liese Hunter
William J. Kelley

Jack Kartez is a doctoral student in City and Regional Planning at the University of North Carolina and assistant professor of regional planning at Washington State University.

Liese Hunter is a masters student in regional planning at Washington State University.

William Kelley is an associate professor of urban and regional planning at Eastern Washington University.

Effective disaster management requires advanced planning. News media centers, public information hot-lines, and on-site volunteer procedures must be established in anticipation of large scale emergencies.

In the following article, Kartez reviews the disaster planning programs and policies of 250 public agencies associated with disaster-prone communities. The study describes managerial perspectives of disaster planning policy. The article is a guide for planners concerned with the complexities of community crisis mitigation.

A frequent finding of research on disasters is the need for local government to anticipate how the community reacts to a large scale crisis. Community disaster plans do not always acknowledge that the independent actions which citizens, news media and other agencies take are factors that management must anticipate. For example, at a recent airline crash in Louisiana that killed 154 people and demolished a neighborhood, fire-fighters commanding the scene were overwhelmed by spectators and would-be helpers whose presence was triggered by inaccurate media reports. This problem of "convergence behavior" has been observed in disasters for almost three decades, but public managers are often caught by surprise. Perry (1979) has called pre-disaster use of this kind of insight "research-based community disaster planning." Through this approach, local officials can "work with people's known reaction patterns" and avoid "making administratively devised plans that potentially create more problems than they solve" (1979: 446).

Implementation Problems

Transfer of this planning philosophy to local practice has not been as rapid as many would like. After a nationwide International City Management Association analysis of local planning in 1982, the study's director complained that:

What is puzzling is, that after years of research on organizational behavior in disasters, local

government continues to be surprised when the standard operating procedures in their lengthy, detailed response plans turn out to be irrelevant in the disaster (Hoetmer 1984: 1).

If researchers' suggestions for local government had little real utility in the event, the above complaint would not be very important. However, such is not the case. Imagine, for example, you had been a key administrator in Wichita Falls, Texas, during its devastating 1979 tornado.¹ In addition to wrestling with obvious demands for treating casualties, restoring services and so on, you would have found yourself making totally unplanned decisions to meet needs like these:

- Appointing the City Attorney to organize a news media information center;
- Assigning firefighters to hand-deliver a "disaster newsletter" to neighborhoods in the days before phones were restored;
- Running a city-staffed information "hot-line" for citizen needs when phones were restored; and
- Designating a single staff member to cope with the continuous appearance of unofficial volunteer help and fit them into the overall response.

This is an account of work supported by National Science Foundation grant 8217550. The views expressed are those of the authors and do not necessarily reflect the opinions of the Foundation.



Volunteers prepare sandbags to hold back the flood waters

Ravell Call

These unplanned strategies of community organization are very similar to those suggested by research on disaster planning needs, and other studies of actual disaster response have made similar findings (Drabek et al. 1981; Kartez 1984). None of these actions were planned, and often on-the-spot adaptive planning is difficult if not impossible. Clearly, research suggestions do have potential utility to local government. To not respond to these demands of community behavior results in emergency decision centers jammed with newsmen (Coalinga in 1983); confused citizens trying to sort "news" and rumor from vital instructions (Mt. St. Helens in 1980); and volunteers duplicating or interfering with the efforts of public agencies (Louisiana air crash). At the very least, needed resources can be overlooked because

planning did not anticipate the sheer numbers of people that are involved in a community-wide crisis.

Management Opinion Survey

The principal question guiding our research asks: Do top managers in local fire, police, public works and executive departments consider it important and feasible to anticipate and plan for these aspects of disaster events? Despite the several decades of research recommendations and case studies, there is surprisingly little knowledge of how the potential users of research view this question. To explore it, we asked the heads of emergency-relevant departments in 80 California, Washington and Utah localities to evaluate the effectiveness of three

adaptive planning

questioning its
importance

"research-based" strategies for meeting community demands.

These examples have been "adaptively" planned in the heat of emergencies (Kartez 1982) as well as offered in the research literature. They included: 1) anticipating the predictable appearance of unofficial citizen helpers with an "Untrained Volunteer Plan", 2) preparing for the onslaught of large numbers of radio and TV personnel with a "Media Information Center" plan, and: 3) maintaining the capability to meet public information needs through, for ex-

Table 1
Preparedness Strategies Evaluated

OBSERVED PROBLEMS:

Convergence of Helpers: Citizens flock to disaster, both as sources of help and as spectators who obstruct lifesaving operations.

Media Overload: The news media is the chief means of rapid communication with the public, but often overwhelming numbers of outside newspeople cause inaccuracies and physically obstruct operations.

Mass Public Information: Citizens can overwhelm agencies with demands for instructions in the critical first days of response, jamming switchboards and distracting key agencies. However, the public needs a source of confirmatory information.

Disaster Resources: Needs for physical resources often outstrip local capability. Public agencies have to make simultaneous decisions on committing public funds as opportunities for help appear, with no time for observing routine business practices.

SUGGESTED PLANNING STRATEGY:

Untrained Volunteer Plan: Pre-designate one public agency to be responsible for expecting these citizen actions and to actively give direction to volunteerism.

Media Information Center: Create incentives for the media to use accurate information. Plan for a central location where media will be given frequent face-to-face information from credible officials.

Disaster Information Hotline: Arrange in advance for the capability to operate and staff phone bank staffed by personnel who will give citizens vital instructions on protective actions, squelch rumors and ease pressures on other agencies to answer citizen demands for information.

Emergency Resource Rules: Speed procurement of special resources or personnel by prespecifying streamlined authorization procedures for all departments that may have emergency resource needs.

ample, a "Phone Hotline" plan. A fourth strategy of a strictly internal, administrative nature was also included for the purpose of comparing opinions: adopting "Emergency Resource Rules"—that is, authorizing local agencies in advance to bend normal administrative procedures for procuring needed resources in a disaster. These four examples are further described in Table 1.

We asked managers in three earthquake-prone metropolitan regions—the San Francisco Bay area, Washington's Puget Sound basin, and Utah's Salt Lake City area—to participate in this study. Cities and counties in these areas were considered to be

generally quite familiar with disaster planning needs. The expectation was that this sample would allow for an informed evaluation of the following questions: 1) Is there a perceived need to plan for the "social" demands of disaster management? 2) Are research-based strategies difficult to adopt and what are their potential constraints? 3) Do factors like experience with disasters, involvement in the planning process or jurisdiction size (a proxy for resources) make any difference?

A total of 250 out of 300 managers replied to the survey. Officials from public works (23%), fire (22%), municipal police (18%), emergency services (12%), sheriffs (6%) and executive departments (8%) participated. An attempt was made to gain the response of a cross-section of key managerial disciplines in each of the 80 jurisdictions. Over three-quarters of the participants represented the top management positions of their respective local agencies.

The following discussion analyzes how public managers view the need to plan, the feasibility of and obstacles to the suggested planning actions, the influence of contextual factors like experience and planning involvement, and the implications for local disaster planning practice. The results are also of interest to us as planners because of the light it sheds on some of the difficulties of planning for unfamiliar and remote community crises.

It should be kept in mind, though, that disaster response planning is quite unlike community land use or development planning. The process revolves around highly specialized line agencies, not community interest groups and policy analysts. Decisions on what to plan for are essentially administrative in nature, not legislative. Fire, public health, police and emergency medical agencies respond to well-defined emergencies every day. However, in a disaster, these same agencies often find their roles expanded in unexpected ways because of the sudden involvement of virtually every sector of the community: individual citizens, voluntary groups, the news media and so on.

The Need to Plan

How significant are some typical disaster response demands in the eyes of public managers? A majority viewed controlling crowds, giving citizens instructions and finding outside resources as somewhat extreme problems (Table 2). Organizing volunteers and meeting the news media's demands for information were viewed as less troublesome. Bay Area

planning for
social demands

administrative decisions

managers facing long term earthquake risks, however, view most of these potential problems as more significant than do their Washington State counterparts. Utah officials viewed only crowd control as an extreme problem, in the wake of their massive 1983 flood fighting experience which involved thousands of citizen volunteers.

Table 2
Managerial Views of Response Demands

PROBLEM AREA	Little or No Problem	Some Problems	Great Problems
Controlling Crowds			
Washington ^a	18%	53%	29%
California	13%	52%	35%
Utah	28%	36%	36%
Organizing Volunteers			
Washington	35%	40%	25%
California	22%	52%	26%
Utah	71%	29%	0%
Giving Citizens Instructions			
Washington	27%	40%	33%
California	14%	42%	44%
Utah	64%	29%	7%
Media Info. Demands			
Washington	38%	36%	16%
California	32%	41%	27%
Utah	78%	22%	0%
Finding Resources			
Washington	25%	48%	27%
California	13%	43%	44%
Utah	57%	36%	7%

^aWashington N = 98
California N = 137
Utah N = 14

Do managers see a need to plan in advance to manage these problems? Table 3 shows the answer is a qualified yes. A majority of the surveyed managers agreed that meeting the demands of outside actors (volunteers, the media and citizen needs for public information) will be quite difficult without prior planning. However, all agreed that meeting the need to find outside resources would not be difficult because of internal, administrative rules. Clearly, managers make a distinction between the need for internal arrangements like "bending the rules" and the external demands of working with the community. The majority viewed external, community demands as nonroutine and requiring anticipatory planning. The key question is to what extent this planning is taking place or is viewed as feasible if not already under way.

Sharing Emergency Planning Assumptions

Most managers considered planning for these demands somewhat feasible, if not already under way in their jurisdictions. About one-third of all California and Washington departments reported the availability of emergency resource rules and media information center arrangements, as shown in Table 4. Fewer reported citizen volunteer plans in place, and only 12% of the 250 departments reported arrangements for public information hotlines. However, 40% to 50% viewed resource rules, media centers and citizen volunteer plans as quite likely to be developed in the future. It was only in the case of hotlines that a sizeable number of departments foresaw little or no chance of adoption.

These findings have to be qualified, though. Consistency between departmental opinions in the same city or county varied a great deal. In many cases, only one out of several departments reported the

bending the rules

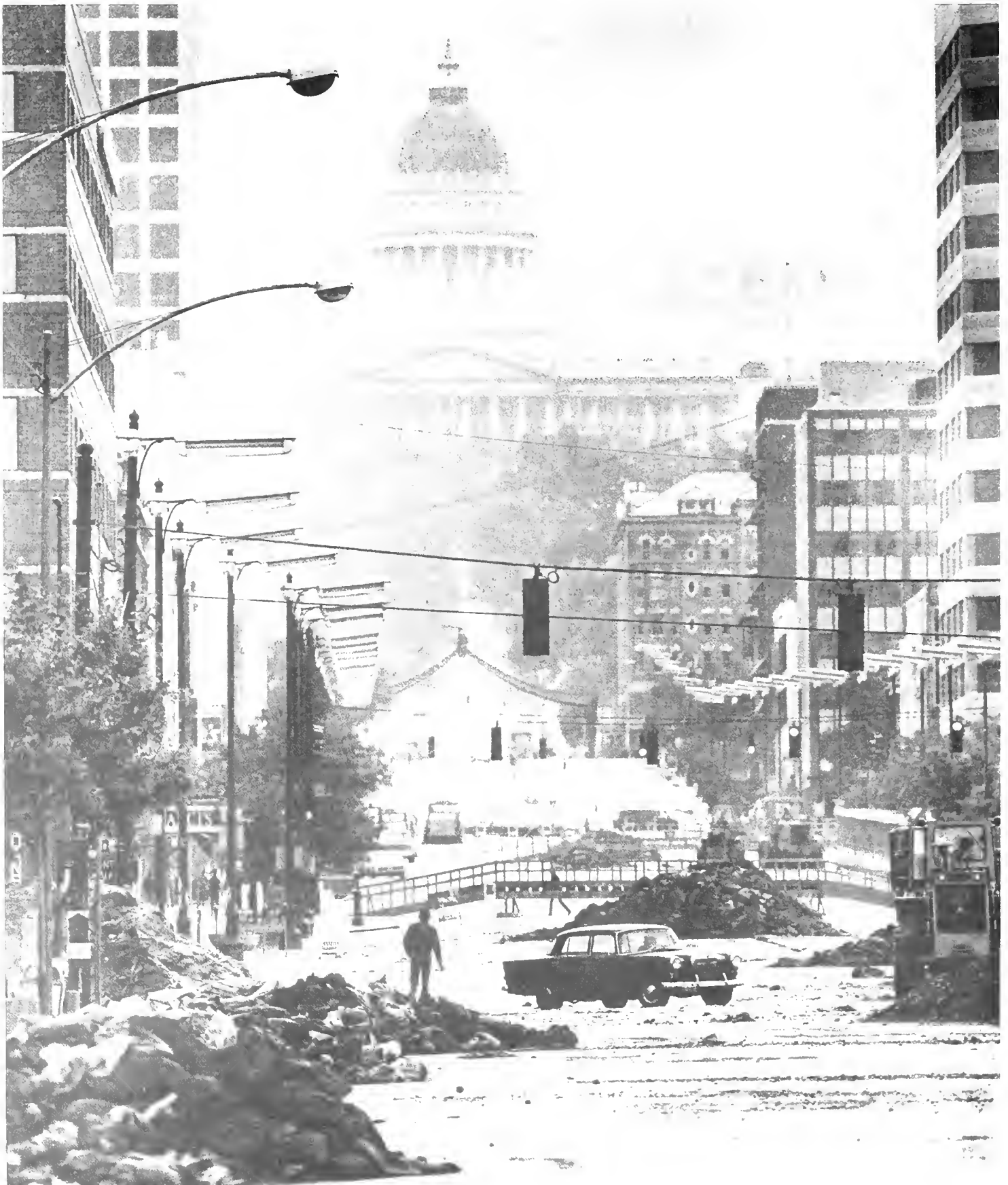
sharing experience

Table 3
Difficulty of Meeting Disaster Demands
With No Planning

DEMAND:	Not Very Difficult	Somewhat Difficult	Much More Difficult
Procuring Resources With No Streamlined Rules			
Washington	60%	28%	21%
California	58%	25%	27%
Utah	43%	29%	28%
Managing Volunteers With No Volun. Plan			
Washington	22%	21%	57%
California	16%	18%	66%
Utah	21%	36%	43%
Managing Public Information With No Media Center Plan			
Washington	21%	29%	50%
California	11%	24%	65%
Utah	36%	14%	50%
Setting Up Hotline Without Contingency Plan			
Washington	18%	22%	60%
California	15%	21%	64%
Utah	21%	36%	43%

formal incorporation of a given strategy in their response plans. In other cases, different departments in the same city or county reported adoption of different strategies. These inconsistencies illustrate one of the peculiar and somewhat troublesome aspects

confidence in proven
strategies



A view of Salt Lake City's Capitol during the clean-up

of community disaster response planning. Agencies are used to responding to specific emergencies where their expertise places them in fairly certain command of the situation (e.g. a fire or a major accident). In a community-wide emergency, however,

Table 4

Feasibility of Adopting Strategies: Individual Views

STRATEGY:	Little or No Chance	50-50 Chance	Good Chance	Already Adopted
Emergency Resource Rules				
Washington	6%	16%	50%	28%
California	4%	15%	46%	35%
Utah	7%	0%	36%	57%
Untrained Volunteer Plan				
Washington	20%	27%	39%	14%
California	15%	21%	44%	20%
Utah	0%	0%	14%	86%
Media Information Center				
Washington	12%	19%	39%	31%
California	11%	17%	40%	32%
Utah	7%	7%	22%	65%
Public Information Hotline				
Washington	27%	31%	30%	12%
California	33%	23%	31%	12%
Utah	14%	0%	36%	50%

every agency is responding at once. The community and news media are heavily involved and, as Lois McCoy of the National Search and Rescue Association pointed out not long ago, what you get is "apples, oranges and bananas all responding together... each to his or her special emergency."

Awareness by apples of what oranges have planned for could be useful. For example, out of 54 departments reporting adoption of citizen volunteer plans in this sample, only five were fire departments. Fire departments need to know that plans exist, however, for keeping citizen helpers from overwhelming and distracting their personnel in a large scale disaster — as was the case in the air crash incident described at the outset of this article. Similarly, out of 31 departments reporting arrangements for public information hotlines, only two were fire departments. Even in some smaller emergencies, fire dispatch personnel are often overwhelmed with calls from the public. Thus, provisions for steering calls away from essential communications in a major disaster can have benefits for first-response agencies like fire departments. The point here is that in a

major disaster, a great number of citizens will be seeking information on what protective actions to take. They cannot be ignored. Awareness of the total disaster planning strategy, however, is often overlooked because of the greater immediacy of each agencies' day-to-day approach to their own routine emergency responsibilities.

protective actions cannot be ignored

Explaining Patterns of Adoption

Even though individual departments are not often aware of the specialized plans that have been made for a major community disaster, the patterns of reported adoption of our four strategies illustrated some important influences at the jurisdictional level: experience, size and a tendency to build on the familiar before investing in new methods. Tables 5 and 6 illustrate the role of experience in adopting what managers rated as the less feasible and less familiar strategies: citizen volunteer plans and public information hotlines. Jurisdictions where no departments have experience with these problems were highly unlikely to have *any* departments reporting adoption of either strategy. In the case of size, it was found that jurisdictions with populations over 75,000 were about twice as likely to report adop-

adopting volunteer plans

Table 5
Operational Experience
With Volunteer Management
vs. Adoption of Untrained Volunteer Plans

Departmental Experience:	N = 77 Jurisdictions		
	Adopted	Not Adopted	
One or More Departments Have Disaster Experience	62%	38%	100% (42)
One or More Departments Have Emergency Experience (But not Disaster)	29%	71%	100% (24)
No Departments Report Experience	36%	64%	100% (11)
TOTAL	48%	52%	100% (77)

tion of each of the strategies than were smaller jurisdictions. This probably points out the role of greater resources in allowing specialization to meet such needs. Of course, smaller communities also face a need to deal with community volunteers and public information needs in a disaster (see Kartez 1984).

inconsistent responses

Table 6
Operational Experience With Disaster or Emergency
Hotlines vs. Adoption of a Hotline Plan

N = 77 Jurisdictions

<i>Departmental Experience:</i>	<i>Adopted</i>	<i>Not Adopted</i>	
One or More Departments Have Disaster Experience	64%	36%	100% (25)
One or More Departments Have Emergency Experience (But Not Disaster)	63%	37%	100% (8)
No Departments Report Experience	11%	89%	100% (44)
TOTAL	34%	66%	100% (77)

We also found that jurisdictions tend to build on the familiar before working out community disaster response plans shown in Table 7. Table 7 shows that unless a jurisdiction adopts one of the more widely accepted planning strategies (e.g., emergency resource rules or media arrangements), it is less likely to have made arrangements for more usual de-

Table 7
Patterns of Adoption by Jurisdictions

<i>Number of Strategies Adopted</i>	<i>Resource Rules</i>	<i>Volunteer Plan</i>	<i>Media Cntr.</i>	<i>Public Hotline</i>	<i>No. of Localities</i>
Only 1 Adopted	57%	0%	43%	0%	12
Two Adopted	79%	36%	64%	7%	16
Three Adopted	80%	75%	90%	40%	21
All 4 Adopted	100%	100%	100%	100%	15

mands (e.g., volunteer plans and public information strategies like a hotline). For example, virtually all (92%) of the cities and counties reporting arrangements for a public hotline also have plans working closely with the news media to disseminate public information in a crisis. Unfortunately, jurisdictions that have not planned for media's involvement in disaster public information problems have not planned for the alternative either. These results suggest that management is less likely to develop comprehensive strategies for a disaster problem like public information unless the process has started with applying the simpler and/or more familiar experiences of management to the potential problems faced in a disaster.

Perceived Obstacles to Disaster Planning

Responding to disasters is a unique area of public service policy because it is the one instance where, under most state statutes, localities are free to plan for and carry out virtually any physical, fiscal or organizational task in a disaster. This makes the individual views and intentions of key public managers an essential part of planning for community response and, frankly, the major ingredient in determining what kinds of plans will result.

In an attempt to assess the acceptability of the planning methods included in our survey, individual views on several obstacles to adoption were collected. These obstacles included perceived costs, legal constraints, lack of operational benefits and low administrative priority for disaster planning. They were selected for inclusion in the survey based on a pilot study of managerial views carried out in 1983 (Kartez and Kelley 1985). The following discussion outlines the extent to which the larger sample of managers viewed these constraints as significant.

Resource Rules: Thirty-six percent of the 250 managers surveyed agreed that they have the informal ability to "bend administrative rules" in a disaster without formal arrangements. Most (75%) consider the ability to make flexible decisions in a disaster, without the burden of routine administrative constraints, as being essential. Only 30% believe there are legal obstacles to doing this. This is a good example of where a perceived constraint does not really exist, as statutes in all of the states surveyed here provide for local suspension of routine procedures in a formally declared disaster. This points out that the planning process does not always change perceptions of how a disaster situation is different from the traditional legal constraints on public service administration. Finally, ninety-two managers (37%) believed that disaster planning will need greater administrative priority before emergency resource rules will be formally adopted in their jurisdiction's plans.

Volunteer Plans: A large majority (80%) agreed that individual citizens can provide a useful resource in a disaster response. A smaller proportion (30%) qualified this opinion by saying that only *trained* volunteers would be useful. Half (47%) saw the risk of legal liability as a drawback to making plans for using volunteers. Again, state statutes provide special authorization for use of volunteers in a declared disaster.

ter, with reduced liability risks for local government. Given the probability that many key department heads are not aware of these provisions, the concerns surrounding legal liability have a negative effect on planning possibilities. One-third stated that the lack of staff to supervise volunteers is also an obstacle to their use. One-third also stated that disaster planning will need higher priority before effort will be expended to plan for volunteer organization.

Media Centers: Few managers appear willing to leave disaster relationships with the media completely unplanned. A total of 81% disagreed with the idea some managers have espoused that "A media center isn't worth planning because they'll find us anyway." Only 21% felt that staff needs are an obstacle to planning for and operating a media information center in a disaster. However, despite the high acceptability and perceived benefits of this strategy, 30% believe disaster planning will need higher local priority before such arrangements will be made.

Disaster Hotlines: An alternative to complete reliance on the commercial media for disseminating disaster public information was regarded as having some benefits (40%) or great benefits (40%). Equally, 80% of managers surveyed believe citizens will call a hotline to get instructions and information in a prolonged community disaster response and recovery. Tempering this enthusiasm, however, was the response of 57% of all managers who questioned the survival of phone systems in a major disaster. This was more of a drawback among earthquake-wary California managers (68%) than among Washington (46%) or Utah (36%) managers. Many of those responding cited a lack of staff (43%) and the costs of hotline equipment (38%) as principal obstacles to providing for a public hotline. About 40% believe that disaster planning needs greater priority before such arrangements will be made.

Positive Factors

Two factors also appear to have positive, rather than dampening influences on individual opinions about adopting these disaster response planning strategies: operational experience and involvement in the planning process. The managers in this sample have had much more operational experience with acquiring emergency resources and providing emergency public information to the media than ex-

perience with managing citizen volunteers or operating special information efforts like hotlines. Those departments with volunteer and hotline experience rate these two strategies as much more feasible, on average, than managers without such experience. Experience with public information efforts in general also made a strong difference in the opinions of Washington participants. As a group, they have had

liabilities of volunteers

Ravell Call



The streets of Salt Lake City served as a river course during the 1980 flood

professional exchange

communication problems

exercises as learning experiences

less experience in this area (56%) than either California (75%) or Utah (86%) participants.

Departmental involvement in disaster planning also made a moderately positive difference in responses regarding the three community-oriented strategies (volunteers, media and mass public information). Managers whose departments have committed staff to disaster planning responsibilities or who frequently participate in planning activities with other agencies view the chances of adopting planning arrangements as being better.

No single factor was found to completely explain variations in local planning choices and opinions. It can be said, though, that jurisdictions which 1) have departments experienced in community disaster behavior; 2) have departments which are involved in ongoing disaster planning activities and; 3) have managers which value disaster planning as a priority are those most likely to devote effort to these needs.

Planning Implications

The results of this survey are not necessarily surprising but they do point out that local government willingness and ability to plan for unfamiliar demands of a crisis are affected by a mixture of influences, including experience, good intra-organizational communications, and support from top management. Each ingredient plays a key role. The most troublesome aspect of community crisis planning, of which disaster planning is only one component, is the basic difficulty of planning for unfamiliar, hence somewhat unreal, problems. Because of this, experience plays a great role in shaping perceptions of what to plan for.

The results of this survey show that a good deal of experience could be shared within the confines of one city or county's personnel. This is especially true recalling that many cities and counties are less familiar with disaster planning requirements than those in the regions covered here. As time goes by, individual agencies' assumptions about what is being planned for and what can and should be included in plans tend to drift apart. Different experiences and perspectives on the structure of relevant problems may lead to different expectations of planned solutions. Because of this problem, the most common local disaster planning activity involves an annual simulated crisis decision making exercise. As a recent Federal Emergency Management Agency planning handbook points out: "Key leaders more often

than not will not know what the local plan provides for, even if personnel from their own departments have participated in developing it . . . the ability to conduct coordinated lifesaving operations can only be developed by exercises."

Local emergency coordinators often have difficulty securing key management's participation in these exercises, as well as involving the departments in an ongoing process. Out of the several hundred departments participating in this survey, only half participated in planning activities more than once in the preceding year. Under these conditions, plans can become obsolete or changed without notice. Sharing knowledge and experience more frequently could have an impact on planning choices and the quality of coordination. Although exercises are essential, resistance to them can be stiff because they are performance-oriented rather than forums for discussion. As the emergency manager in one urban county of over one million put it: "Exercises sometimes embarrass the department heads, and we're not trying to do that. Our approach has changed to a learning experience, not putting them on the spot."

Table 8
Preferences for Planning Information

Info. Sources	Little or No Benefit	Some Benefit	Great Benefit
Talk w/ Experienced Managers	4%	35%	61%
Seminars on Cases	11%	52%	38%
All-Day Exercises	16%	51%	33%
Tabletop Exercises	19%	56%	25%
Written Case Studies	29%	60%	12%

We asked this sample of managers to rate the benefits of several different sources of information on disaster planning needs, including exercises (Table 8). A clear preference was expressed for getting this information from contact with professional colleagues who have managed large scale disaster responses in other areas. Case studies and emergency exercises were also favored methods.

This finding created a dilemma given the other results of the survey; there is clearly a good deal of experience that can and should be shared between the agencies in the same city or county. For example, managers that perceive certain legal obstacles need to know what arrangements already exist that nul-

continued on page 45

Hazard Reduction Through Development Management in Hurricane-Prone Localities:

State of the Art

Timothy Beatley and David R. Godschalk

The state of the art in using development management strategies to reduce hurricane hazards is explored through a 1984 survey of hurricane-prone localities in 19 states. Contrary to some of the hazard mitigation literature, results show not only a high priority for hazard mitigation but also a high reliance on development management approaches, as compared with building, strengthening, and environmental alteration.

Timothy Beatley is a Doctoral candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill. Beatley currently works as a Research Associate at the Center for Urban and Regional Studies in Chapel Hill.

Until recently, the plans and programs employed by coastal communities to help mitigate hurricane and severe storm impacts have been poorly documented. Our research seeks a better understanding of local hazard mitigation measures and their effectiveness in reducing storm threats. To gather information, we mailed a questionnaire to planners and public officials in high-hazard coastal localities in nineteen states.

The questionnaire asked:

1. What types of programs and measures (including development management) are currently employed by coastal localities to reduce hurricane and storm hazards?
2. How effective are these programs and measures at reducing storm hazards?
3. What are the major characteristics and attributes of coastal development, and what are the factors which influence these patterns?
4. What are the major factors which influence the political feasibility and acceptability of hazard mitigation measures, and specifically development management?
5. What are the factors which influence the effectiveness of mitigation programs and measures, and specifically development management?

This article synthesizes information from the survey findings.¹ Among the highlights of these findings are:

- a surprisingly high priority for hazard mitigation;

- a surprisingly high number of adopted storm hazard reduction strategies;
- a surprisingly high degree of operating development management programs;
- a reasonably high effectiveness rating for overall reduction efforts.

Survey Population

The questionnaire was designed to document mitigation efforts of coastal areas most susceptible to hurricane and coastal storm forces. Rather than select localities according to some subjective assessment of hurricane risk, we decided that an objective selection could be appropriately based on "Velocity-Zone" or "V-Zone" designations provided by the Federal Emergency Management Agency (FEMA) under the National Flood Insurance Program (NFIP). V-zones are coastal waterfront areas which are of sufficient fetch to support a minimum three-foot wave atop the still flood waters (see U.S. Army Corps of Engineers, 1975). In these areas, higher actuarial flood insurance rates apply and special building provisions are required under NFIP.

All localities of over 1,000 population containing V-zones were surveyed. The population was determined from the FEMA "communities file," supplemented by a FEMA listing of localities currently being studied for V-zone designation.² Questionnaires were mailed to 636 localities in 18 Gulf and Atlantic coast states

David R. Godschalk is a professor of planning at the University of North Carolina at Chapel Hill. He is the co-principal investigator of the National Science Foundation-funded research project from which this article was drawn. Godschalk has published and taught in the fields of land use and environmental planning, negotiation, and hazard mitigation.

mitigate storm and hurricane impacts

velocity zone designations

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(Alabama, Connecticut, Delaware, Florida, Georgia, Louisiana, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, South Carolina, Texas, Virginia). In addition, the four counties in Hawaii were included.

Each locality containing V-zones received a questionnaire in June, 1984. As of December 1, 1984, 420 survey responses had been received, for a response rate of 66%.³

Respondent Characteristics

Information from the questionnaire provides useful insights into a number of important characteristics of hurricane-prone localities. Important highlights include:

- The predominant type of *existing* development within the floodplains of hurricane-prone survey communities is single-family detached residential. Assessments of *new* development indicate that a high degree of multi-family and commercial construction (including commercial, recreational and hotel/motel is sited in coastal floodplains.
- In a significant number of the communities surveyed (over one-third), *hazard-free development sites* (sites outside of the 100-year floodplain) were considered to be either scarce or very scarce.
- More than half of the survey respondents (57%) did not know how long it would take to *evacuate* their communities should a hurricane threaten. About one-half of these respondents were located in jurisdictions of less than 20,000 in population.
- The majority of respondents were at least somewhat familiar with *state programs* assisting localities in storm hazard management. Most had received some type of state assistance in the past five years, with information on the National Flood Insurance Program and floodplain maps being the most frequent types of assistance. One-half of the respondents also indicated that their communities had received assistance with disaster preparedness plans.
- In over half of the communities, a *regional agency* had been involved in storm hazard mitigation. The most frequent type of involvement was the preparation of a regional evacuation plan.

Storm Threat Priority

The survey results challenge previously held perspectives on the local political salience of hurricane hazards. Current literature describing the politics of natural hazards discount their relative importance to public officials (e.g. Rossi, Wright and Weber-Burchin 1982; Drabek, Mushkatel and Kilijaneck 1983). We expected similar results from our questionnaire. Overall, however, approximately 72% of the respondents indicated that their jurisdiction's governing body considered the threat of severe coastal storms of at least medium priority in comparison with other local issues. Close to half of the respondents (46%) indicated the priority to be of either high or very high priority. (Table 1)

Table 1
Elected Governing Body's Priority for Storm Hazard in Comparison With Other Local Issues

	Frequency	Percent
Very High Priority	68	16.3
High Priority	126	30.2
Medium Priority	108	25.9
Low Priority	85	20.4
Very Low Priority	30	7.2
N=417		

Thus, in apparent contrast to much of the recent natural hazards literature, a substantial percentage of coastal localities consider the storm threat of high importance as compared with other local issues. A partial explanation for this is, of course, seen in the nature of the population. These are coastal areas where the full force of coastal storms is felt and where people have the most to lose (i.e. where the risk to life and property is greatest) should a hurricane or severe storm occur.

Mitigation Programs and Their Effectiveness

The survey asked about storm hazard reduction strategies and about the use of programs to alter the coastal environment, to strengthen buildings and facilities, and to manage development. Respondents described and ranked these approaches and evaluated their effectiveness.

Explicit Storm Hazard Reduction Strategies

Respondents were asked if their locality had adopted an explicit storm hazard reduction strategy

characteristics of
hurricane-prone localities

storm hazard reduction
strategies

in addition to their participation in the National Flood Insurance Program. Surprisingly, about half (51%) of the respondents indicated that an explicit strategy did exist. Those who indicated they had such a strategy were asked about specific strategy objectives. Ten objectives were listed in the questionnaire with respondents permitted to circle as many objectives as were applicable. The two most frequently selected objectives (by about 60% of the respondents in each case) were: conserving the protective features of the natural environment and increasing the ability of private structures and facilities to withstand storms. The two objectives most closely related to development management also received a high percentage of responses: guiding new development into less hazardous areas and locating public facilities in less susceptible areas. (Table 2). The lowest ranked objectives were relocation, either of private or public structures and facilities.

Programs to Structurally Alter the Coastal Environment

Programs which structurally modify or alter the coastal environment include sand trapping structures (e.g. groins, jetties), sand moving programs (e.g. beach nourishment, beach scraping), shoreline protection works (e.g. bulkheads, seawalls, revetments), and flood control works (e.g. dikes, channels, retaining ponds) (U.S. Army Corps of Engineers, 1981). Substantial use of each of these approaches was found, although shoreline protection works was a clear leader with more than two-thirds of the responding localities indicating that such measures were in use. The use of sand trapping, sand moving and flood control works was about even, with approximately one-third of the responding localities using them.

Respondents were also asked to evaluate the effectiveness of these programs in reducing local storm hazards. Flood control works and shoreline protection received the highest effectiveness ratings, with the remaining two categories falling considerably behind. Sand trapping structures received the lowest rating even though they were used by almost as many localities as flood control works.

Programs to Strengthen Buildings and Facilities

To strengthen buildings and structures, and the private and public facilities that accompany them, local governments rely on building codes, NFIP requirements, and construction standards. Almost all

Rank	Order	Frequency	Percent
1.	Increasing ability of private structures and facilities in hazardous areas to withstand storm forces	127	59.9
2.	Conserving protective features of the natural environment (e.g. dune protection)	126	59.4
3.	Increasing evacuation capacity	99	46.7
4.	Increasing ability of public structures and facilities in hazardous areas to withstand storm forces	98	46.2
5.	Locating new public facilities and structures in areas less susceptible to storm hazards	96	45.3
6.	Guiding new private development into areas less susceptible to storm hazards	96	45.3
7.	Provision of adequate storm shelters	82	38.7
8.	Structurally-altering and/or reinforcing the coastal environment (e.g. seawalls, bulkheads)	74	34.9
9.	Relocation of existing public facilities and structures into less-hazardous areas	14	6.6
10.	Relocation of existing private development into less hazardous areas	11	5.2

N=212

*Respondents were asked to check all relevant categories

responding localities had a building code in place (90%) and had met the minimum elevation and floodproofing standards required by FEMA under the provisions of the National Flood Insurance Program (94%) (See Conservation Foundation 1980 for a review of NFIP requirements). About 47% of the respondents had special storm resistant building standards in place and well over one-third were floodproofing public facilities and structures. Only 15% of the responding localities, however, had adopted elevation and floodproofing standards which were more stringent than those required under NFIP (Table 3).

modifying the coastal environment

Development Management Measures

"Development management" is defined to include "programs and policies which control or influence the location, density, timing and type of development which occurs in a jurisdiction" (Godschalk, Brower et al 1979; Brower et al 1984 for a review of this concept). Respondents were asked to indicate from a list which development management tools and measures were currently used in their jurisdiction, and the extent to which they serve to reduce local storm hazards.

development management tools

Specific development management measures were organized under six headings: 1) planning; 2) develop-

strategic placement of capital facilities

ment regulation; 3) public facilities policy; 4) taxation, financial and other incentives; 5) public acquisition; and 6) information dissemination. Overall, 21 different measures were listed in this question, ranging from zoning and subdivision provisions to below market property taxes. (Godschalk and Brower, 1985; McElyea, Brower and Godschalk, 1982 for an application of these techniques to hazard mitigation).

Table 3
Programs to Strengthen Buildings and Facilities

	Frequency	Percent	Average Effectiveness (on a five-point scale)
1. Minimum elevation and flood-proofing under NFIP	394	93.8	3.86
2. Building code	378	90.0	3.6
3. Special storm-resistant standards	198	47.1	3.82
4. Floodproofing of public facilities and structures	161	40.2	3.47
5. More extensive elevation and floodproofing	62	14.8	3.94
N=420			

the popularity of zoning and subdivision regulations

Most local governments are using some form of development management. More than seventy percent of the respondents have six or more techniques currently in use (Table 4). About 15% have eleven or more of these measures in use. The majority of localities, roughly 55%, fall within the 6 to 10 measure range.

The most popular measures in use include zoning, subdivision regulations, and planning. Table 5 lists the development management techniques in order of frequency selected by respondents.

Development regulation includes traditional land use controls, particularly zoning and subdivision regulations. These two measures are currently in use in most responding localities, including 87% for zoning and 85% for subdivision regulations. Ap-

Table 4
Number of Development Management Measures in Use

Number	Frequency	Percent
1-5	121	29.2
6-10	229	54.5
11-15	58	13.8
Over 15	7	1.7
N=420		

proximately half of the respondents have shoreline setback provisions, while over one-third have dune protection and over a quarter have special hazard area ordinances.

Under planning instruments, the comprehensive or land use plan was the most frequently used (84%). Evacuation plans ranked second in frequency at 66%, while the capital improvements program ranked third, with about half the respondents indicating its use. Not surprisingly, plans and policy documents dealing specifically with the reduction of storm hazards were considerably fewer in number. About 19% of the respondents had hurricane/storm components in their comprehensive plans and about 21% had recovery/reconstruction plans or policies.

Public facility policies concerning the construction and location of facilities, structures and other public investments can be an important means of controlling development. Forty-six percent of the respondents noted that their locality had policy in place to locate public structures and buildings in low risk areas; 31% indicated that their locality attempts to discourage development in high hazard areas through the strategic placement of capital facilities. Unlike the more general techniques, these capital facilities approaches are explicitly storm hazard related.

Three types of measures were included under the heading of taxation and financial incentives: reduced or below market taxation, impact taxes or special assessments, and devices for the transfer of development potential. Each of these measures was specifically related to the mitigation of storm hazards. Perhaps due to the narrowness of the definition, relatively few respondents said they are using these techniques for such purposes. Impact taxes/special assessments received the smallest number of responses (2%), followed by reduced or

below market taxation (11%). Development potential transfer measures were more popular, being used by 22% of respondents.

An effective approach to storm hazard mitigation is public acquisition of undeveloped land in high hazard areas, preempting its availability for private development. One option is to purchase the fee-simple title for the land (all the rights to the land), while another option is to purchase only the "development rights" to this land (an easement restricting

development). The former is a more traditional approach and 29% of the respondents indicated that such an approach was in use, compared with 14% using the second approach—the purchase of development rights or easements in high hazard areas. Very few were using programs to purchase damaged buildings and structures in hazard areas (3%) or programs to relocate structures outside of hazard areas (2%).

Models of rational behavior suggest that individ-

public purchase of
development rights

Table 5
Development Management Measures in Order of Frequency Used

Rank Order	Type of Measure	Number of Survey Communities Using It	Percent
1	Zoning ordinance	368	86.6
2	Subdivision ordinance	359	85.5
3	Comprehensive/land use plan	352	83.8
4	Evacuation plan	278	66.2
5	Shoreline setback regulation	225	53.6
6	Capital improvement program	222	52.1
7	Location of public structures and buildings to reduce storm risks	193	46.0
8	Dune protection regulations	159	37.9
9	Location of capital facilities to reduce or discourage development in high hazard areas	131	31.2
10	Acquisition of undeveloped land in hazardous areas	121	28.8
11	Special hazard area ordinance	109	26.0
12	Hazard disclosure requirements in real estate transactions	107	25.5
13	Transfer of development potential from hazardous to non-hazardous sites	89	21.2
14	Recovery/reconstruction plan or policies	88	21.0
15	Hurricane/storm component of comprehensive plan	81	19.3
16	Construction practice seminars	65	15.5
17	Acquisition of development rights or scenic easements	58	13.8
18	Reduced or below market taxation	45	10.7
19	Acquisition of damaged buildings in hazardous areas	14	3.3
20	Building relocation program	9	2.1
21	Impact taxes or special assessments	8	1.9

N=420

Table 6
Development Management Measures in Order of Perceived Effectiveness

Rank Order	Type of Measure	Average Effectiveness Rating (on a five-point scale)
1	Special hazard area ordinance	3.85
2	Impact taxes or special assessments	3.75
3	Dune protection regulations	3.68
4	Location of public structures to minimize risk	3.66
5	Acquisition of undeveloped land in hazardous areas	3.61
6	Shoreline setback regulations	3.59
7	Evacuation plan	3.54
8	Acquisition of damaged buildings in hazardous areas	3.54
9	Transfer of development potential from hazardous to non-hazardous sites	3.44
10	Location of capital facilities to reduce or discourage development in high hazard areas	3.41
11	Hurricane/storm component of comprehensive plan	3.34
12	Building relocation program	3.33
13	Construction practice seminars for buildings	3.22
14	Zoning ordinance	3.15
15	Subdivision ordinance	3.06
16	Reduced or below market taxation	3.02
17	Recovery/reconstruction plan or policies	2.99
18	Comprehensive/land use plan	2.94
19	Hazard disclosure requirements in real estate transactions	2.92
20	Acquisition of development rights or scenic easements	2.88
21	Capital improvements program	2.55
N=420		

uals will make responsible decisions if they have access to all the relevant information. This has spurred interest in programs to inform the housing consumer, the developer/builder and the general public about the risks associated with hurricanes and severe coastal storms (e.g. see Palm 1981). Two types of information dissemination programs were investigated: hazard disclosure in real estate transactions and construction practice seminars. About one-quarter of the respondents had hazard disclosure provisions in place, while approximately 15% used construction practice seminars.

Table 6 presents rankings of the specific development management measures by their perceived effectiveness at reducing local storm hazards. No planning approaches appear in the top ten in terms of

effectiveness at reducing storm hazards. Three regulatory approaches are highly rated: special hazard area ordinances, dune protection regulations, and shoreline setback regulations. Both public facilities policies are perceived to be highly effective, as are programs designed to acquire undeveloped land and damaged buildings in hazardous areas. Impact taxes and programs which transfer development potential from hazardous to non-hazardous sites are also perceived as highly effective. In contrast, among those programs and policies perceived as least effective at reducing storm hazards are the following (the lowest five): capital improvements programs, acquisition of development rights or scenic easements, hazard disclosure requirements, comprehensive/land use plans, and recovery/reconstruction plans or policies.

Ranking Mitigation Approaches

Respondents were asked to rank the importance of the three mitigation approaches in reducing storm hazards in their jurisdiction. Of the three approaches, development management received the most top rankings. Strengthening buildings and facilities received the most second rankings, while structural reinforcement of the coastal environment received the most third rankings (Table 7).

It should be remembered that this ranking is relative to the specific responding locality. That is, even in circumstances where development management is ranked third (last) by a respondent, the locality still may have a solid and innovative development management program. Its lower ranking may be attributable, for instance, to the importance of structural improvements (e.g., in the case where a large amount of the hazard area has already been developed.)

Overall Effectiveness

After considering all of the strategies and techniques employed in their jurisdictions, respondents rated the combined effectiveness of these at reducing local storm hazards. Most felt that local programs were at least partially effective. Over 70% believed their combined programs were either moderately effective or very effective, while only a small 6% believed these programs were not effective at all. The majority of respondents (58%) placed their jurisdictions in the "moderately effective" category. Thus, in most responding areas, room for increased effectiveness exists (Table 8).

Feasibility of Enactment and Enforcement

A primary objective of the survey was to obtain insights into factors which influence the political feasibility of development management. Of eleven possible obstacles to the enactment of development management measures, the following five were most frequently identified, with each chosen by nearly seventy percent of the respondents: 1) the general conservative attitude toward government control of private property rights; 2) a general feeling that the community can "weather the storm"; 3) lack of adequate financial resources; 4) the existence of more pressing local problems and concerns; and 5) the opposition of real estate and development interests. In addition, the absence of politically-active individuals and groups advocating hurricane/storm mitigation,

while not as frequently selected, was ranked as an important obstacle.

Respondents were also asked to review several popular arguments against development management and to indicate the extent to which these have

Table 7
Ranking of the Mitigation Strategies Based on Overall Importance in Reducing Local Storm Hazard

	Rankings		
	Most Important 1	2	Least Important 3
1. Structural reinforcement of coastal environment N=397	87 (21.9%)	118 (29.7%)	192 (48.4%)
2. Strengthening buildings and facilities N=398	103 (25.9%)	185 (46.5%)	110 (27.6%)
3. Development management N=403	215 (53.4%)	90 (22.3%)	98 (24.3%)

been important in their localities. One important argument against the enactment of development management identified by respondents is that such measures lead to increased development costs. Other arguments which were deemed important suggested: 1) decisions about risks from coastal storms are best left to the individual; 2) development management measures will dampen the local economy; and 3) particular development management measures are illegal or unconstitutional.

The survey also sought to determine whether problems exist in implementing and enforcing those development management measures in place. About half the respondents (49%) indicated that they had encountered implementation or enforcement problems. Of these respondents, the most frequently identified type of problem was that of insufficient funds. Public opposition, lack of support by public officials, lack of qualified personnel, and an insufficient data base were also indicated as problems by a significant portion of the respondents. Moreover, approximately one-third of the respondents (33%) indicated that their localities had experienced negative consequences as a result of development management programs. The most frequent selection by an overwhelming margin was an increase in construction costs.

Analysis of Relations

From the information contained in the questionnaire, simple bivariate relationships were analyzed

the effectiveness of combined programs

opposition to development management

Table 8
Overall Effectiveness of Storm Mitigation

	Frequency	Percent
1. Very effective	50	12.6
2. Moderately effective	231	58.0
3. Slightly effective	93	23.4
4. Not effective	24	6.0
N=398		

relationship between
factors affecting
mitigation strategies

to provide clues about interactions between coastal development patterns, political feasibility of mitigation measures and perceived effectiveness of these programs at reducing storm hazards. While this analysis is preliminary, several interesting relationships emerged:

feasibility of mitigation

raising the awareness of
local officials

- The extent of the coastal floodplain developed appears to be positively influenced by the extent of the locality's area lying in the floodplain and the scarcity of hazard-free development sites. Also, where an agricultural economy still exists, development in the floodplain is likely to be less substantial.
- Adoption of an explicit storm hazard mitigation strategy is positively related to the priority given to the storm hazard by the local governing body, the percentage of a locality's land in the coastal floodplain, and the proportion of local development occurring in these hazard areas.
- About 60% of the respondents indicated that their localities had experienced a hurricane or severe storm since 1970. This past storm experience appears to be positively associated with the adoption of explicit storm hazard reduction strategies and development management measures.
- The quantity of new development, as measured by building permit data, is positively associated with the adoption of explicit hazard reduction strategies and development management measures.
- Population size and number of planning personnel are positively associated with the adoption of explicit hazard reduction strategies and development management measures.
- An active role of regional agencies in storm hazard mitigation is positively associated with the adoption of explicit hazard reduction strategies and development measures.

- The overall effectiveness of storm hazard mitigation programs, including development management, is positively associated with priority given to the storm threat, and negatively associated with a lack of support by public officials. As well, areas that have explicit storm hazard reduction strategies are more likely to have effective storm hazard management programs.
- Knowledge of sources of state assistance is positively associated with the effectiveness of development management measures.

Implications for planning

The preliminary survey findings suggest a number of implications for coastal planners and policy-makers concerned with enacting and implementing development management measures to reduce storm hazards. Many factors and community characteristics affect the feasibility of hazard mitigation. Some are beyond the control of planners, while others are more accessible to influence. Even though planners can do little to change the fixed factors, they must be aware of these constraints when designing their programs.

Obviously, mitigation measures will be more feasible in localities where higher priority is given to storm hazards. Planners can heighten awareness of the severity and potential destructiveness of storm forces, both on the part of the general public and local elected officials. They can connect concern over hurricanes with planning and development solutions. Since mitigation efforts tend to be more feasible in localities which have had recent experiences with hurricanes and severe coastal storms, planners can highlight the storm histories of their jurisdictions.

Mitigation programs are more feasible in localities of larger population size, and with greater planning resources and personnel. While these factors may be largely beyond the control of local planners, higher levels of government may be able to influence them. State grants which support the preparation of land use plans and/or which allow funds for technical assistance have enhanced many states' local planning capacity. Regional agencies can also be used to supplement local personnel, resources and planning expertise. In many states, regional agencies have been instrumental in raising the awareness of local officials and the coastal public concerning storm hazards.

*Wilmington Star News*

political constraints to
mitigation

overcoming local political
opposition

A locality's physical characteristics and development patterns present both mitigation opportunities and mitigation constraints. Keeping development away from hazard areas will tend to be more feasible in localities where viable non-intensive uses for these areas, such as agricultural activities, still exist. As well, development pressures in hazard areas will tend to be greater where alternative sites for development are less available. In many circumstances it simply may not be possible to prevent development in hazardous areas without entirely stopping development in the locality.

Storm hazard priority is also affected by physical characteristics and patterns of development. Where the hazard area comprises a larger portion of the locality, and where a high degree of development is already occurring in the hazard zone, storm hazard priority is enhanced. In these situations, the potential destructiveness of storms is harder to ignore. The finding, which shows that the use of development management is greater where development pressures are more extensive, supports this. It suggests moreover, a kind of "tipping-point" theory

about the use of development management. The need for management programs may not exist until a critical level of development occurs. The trick for planners and policymakers concerned about mitigation, then, is to employ development management tools before the extent and pace of hazard zone development forecloses any possible future reduction in coastal damages and loss of life.

The survey results also indicate the importance of political constraints to mitigation, including the opposition of real estate and development interests, and the absence of politically-supportive groups. Planners must begin to work with real estate, business and other politically important groups in the locality to inform them of the benefits of mitigation. Planners may also need to nurture and develop other local constituencies that will be politically supportive of mitigation efforts. Recreation and conservation groups, for example, may represent potent political allies in the support of mitigation programs. The importance of combining storm hazard reduction with other salient local goals cannot be overstated.

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Redevelopment After The Storm: Hazard Mitigation Opportunities and Obstacles in the Post-Disaster Setting

Jane L. Hegenbarth and David J. Brower

Jane L. Hegenbarth received her Master of City and Regional Planning from the University of North Carolina at Chapel Hill in 1984. She is currently working as a Research Associate at the Center for Urban and Regional Studies in Chapel Hill.

David J. Brower is the Associate Director of the Center for Urban and Regional Studies in Chapel Hill. Brower has extensive experience in coastal planning and is currently President of Coastal Resources Collaborative, a coastal planning consulting firm.

In their cogent analysis of three coastal communities devastated by hurricanes, Hegenbarth and Brower detail the obstacles and consequences of development management planning in disaster-prone areas. The summary of findings presented in this article offers surprising insight into the disincentives for "preemptive storm planning". Notably, severe storms can provide unique opportunities for developers and public recreation offices in cases where land has been "naturally cleared" and thereby made available for new uses. These case studies also illustrate the organizational problems which face many communities in their post-disaster response efforts.

Over 600 communities on the Atlantic and Gulf coasts are vulnerable to the devastating impacts of severe hurricanes. While there are many communities at risk, relatively few have experienced the major recovery and reconstruction process that follows a major storm. Many communities are unprepared for the pressing issues that will face a community after a disaster. This lack of pre-storm planning can affect a community's ability to recover quickly and smoothly should a coastal disaster occur. With more readily predicted community disasters, such as riverine flooding, decision-makers can build on their community's past experience to plan for and mitigate the impacts of future occurrences. Hurricanes, on the other hand, have a low probability of striking particular communities in any given year. As a result, they do not provide a good base from which local officials and policymakers can "learn from experience." The severity of a hurricane's economic and psychological impact, furthermore, demands an examination of the post-disaster and reconstruction efforts of hurricane stricken communities from which disaster planning techniques can be developed.

Severe hurricanes destroy existing development so effectively that they have been called "the purest form of urban renewal." Communities often use hurricane demolition as a means of altering their pre-storm development patterns. Development is moved away from hazardous areas to reduce private property loss and to minimize the amount of public infrastructure at risk. A community may have the opportunity

to acquire prime waterfront property and thereby expand its public beach areas, alter undesirable development trends and reconstruct severely damaged areas in more attractive and less vulnerable ways than existed previously. While a disaster may present opportunities for changing development patterns, it also creates a number of pressures on the community which may work against the enactment of development management policy changes. In an effort to better understand these pressures and obstacles in the post-storm reconstruction process, three communities heavily impacted by recent hurricanes were studied as cases of development management. The three communities included: Harrison County, Mississippi (Hurricane Camille, 1969); Gulf Shores, Alabama (Hurricane Fredrick, 1979); and the Galveston Bay area (Hurricane Alicia, 1983). This article will briefly discuss the redevelopment and reconstruction trends observed in these communities.

Harrison County, Mississippi

Hurricane Camille, which battered the Gulf coast in August 1969, is one of two "category 5" storms on the Saffir-Simpson scale ever recorded to strike the United States (category 5 is the most severe). The

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a lack of preparation

learning from experience



Bob and Janet Helm, right, face off against Carol and Nancy Cash in a game of cards at the evacuation center set up at West Brunswick High School.

storm had a seven mile wide storm center, winds of over 200 miles per hour, and a storm surge that ranged from 17-23 feet in the coastal communities of Harrison County, Mississippi. While older stately homes in the sheltered higher areas on the coast survived the storm, almost all construction in the lower lying lands was destroyed. This included a "hurricane proof" house which was totally destroyed, killing the owner and the friends who had sought shelter with him.

Four of the communities most severely hit by Hurricane Camille were in Harrison County. Gulfport and Biloxi are sizable towns of almost 50,000 residents; Long Beach and Pass Christian are considerably smaller with only 6,000 and 3,000 residents, respectively. These communities have been plagued by storm damages since their founding. After a hurricane caused extensive damage to the beach highway in 1915, a seawall was constructed along the entire length of Harrison County's 26 mile shoreline. Subsequent coastal storms and hurricanes caused the shoreline to erode dramatically. In 1951, construc-

tion began on an artificial sand beach to act as a protective barrier for the seawall highway and low-lying development. Today, a costly annual beach nourishment program sustains the beach.

The National Flood Insurance Program was instituted one year before Hurricane Camille hit the Gulf Coast. Unfortunately, at that time, there were no communities yet participating in the program. After the storm, the Governor of Mississippi established a 12-member commission — the Governor's Emergency Council (GEC) — to act as a temporary overseer of long range regional development of the impacted coastline. This role was later expanded to include the coordination of Federal Disaster Relief efforts when President Nixon designated the GEC as the single contact for federal aid. Despite the equal representation of coastal residents and federal administrators on the GEC, its policies were subject to frequent attack and condemnation by residents of these extremely conservative coastal communities.

The lack of adequate flood insurance was a primary factor in the slow reconstruction process of

hurricane-proof homes
destroyed



Seawall at Galveston Bay

Harrison County. Many property owners did not ever rebuild. According to interviews conducted with local realtors during the summer of 1984, land prices fell dramatically after the storm. For many years prices remained depressed. In the period immediately following the storm, development was concentrated in the rural, upland area of the county. To this day, developers and local realtors admit that they are conscious of the dangers of building in the most low-lying lands. There has been a general reluctance to redevelop along the shoreline.

Biloxi and Gulfport had both adopted a building code a number of years before Camille. As part of the requirement for acceptance into the National Flood Insurance Program, these Building Codes were strengthened and extended county-wide. General confusion resulted from a waiver of the building permit procedures immediately following the storm, several rounds of revisions to the new code, and lack of compliance on the part of lending institutions such as Farmers Home Administration. The end result was that a large (but unknown) number of buildings

severely damaged by the storm throughout Harrison County were reconstructed without conforming to the more restrictive building code standards.

With the influx of federal disaster relief, the larger towns used the storm as an opportunity for downtown revitalization. The most severely damaged areas were rezoned for more intense uses. Forty-six properties in the Biloxi downtown waterfront area which were completely destroyed by the storm were acquired by the town. The land was used for a substantial urban renewal development. Hazard mitigation was not, however, the community goal behind this post-storm property acquisition.

The smaller communities of Long Beach and Pass Christian did not recover as well as their larger counterparts. Biloxi and Gulfport were better equipped to handle the disaster and were more successful in applying for grants to aid in their redevelopment.

Today, hurricane hazard mitigation is a primary concern of planners in the Harrison County area. Despite this concern, local decision-makers remain unsatisfied with public evacuation plans and public education programs. Long range comprehensive planning has few supporters in these communities. Most of the cities' current development regulations, for example, were federally mandated for inclusion in the National Flood Insurance Program. There is little local initiative to bolster hazard mitigation policies (Leyden 1985).

Gulf Shores, Alabama

Hurricane Fredrick, a category 4 storm on the Saffir-Simpson scale, struck the Alabama coastline in September 1979. It sustained winds of 130 miles per hour and caused an estimated \$1.7 billion in property damage. In Gulf Shores, about 30 miles from the storm's landfall, the first two tiers of waterfront development were almost entirely destroyed or so severely damaged that they could not be repaired. The main beach highway was breached in a number of sections. The water and sewer lines running alongside the highway were extensively damaged.

Compared to many coastal areas, Gulf Shores and the surrounding Baldwin County area were relatively undeveloped in 1979. The town had only 2,000 permanent residents, although this swelled manyfold in the summer months. The Gulf Shores area had been growing through the 1960's and 1970's as a vacation resort area. At the time of the storm,

community condemnation

a reluctance to
redevelop

it had a few small motels and two condominium developments. Single family vacation homes and rental cottages were the most common type of construction. The town joined the regular phase of the National Flood Insurance Program in 1971. In that year a building code was adopted to comply with the minimum program requirements. Buildings built before 1971, however, were not built to any minimum elevation or structural requirements. State or local regulation of shoreline development was non-existent and many buildings were sited too close to the shore to be adequately protected even from long-term erosion. The lack of a professional planning staff and an unwieldy zoning ordinance compounded the town's disaster preparedness problems.

After the storm, sixteen counties in the Mobile Bay and Florida Panhandle area were declared a Federal Disaster Area. FEMA set up local disaster assistance centers to coordinate disaster relief activities. In Gulf Shores, federal funds were used for debris cleanup and removal, and for the restoration and repair of damaged public facilities. Eligible public expenses included public water and sewer services, roads, recreation and park facilities, and other damaged public property such as public buildings.

The community's ability to recover quickly from the storm's severe impact was clearly related to the generous level of financial and technical assistance provided by FEMA. There were frustrations expressed, however, over the lack of effective communication between federal and local officials. Local officials lacked the knowledge and experience to deal with strict, often unwieldy federal regulations and federal bureaucratic channels.

The first action the city took after the storm was to place a building moratorium on reconstruction in the beach areas. The moratorium lasted until public facilities were restored to the area. Minor repairs were allowed without a permit, but new construction and repairs to heavily damaged structures needed building permits. Large numbers of residences built prior to the minimum elevation and building code requirements were heavily damaged. As nonconforming structures, they were required to be rebuilt to FEMA standards if the damage required improvements of fifty percent or more than their pre-storm value. As might be expected, inspectors were under considerable pressure to underestimate the damages to these structures, particularly if their owners did not have insurance to cover the losses.

FEMA used 1362 funds to acquire five beach front parcels adjacent to the town's public beach and transferred them to the city. In addition, FEMA funded the preparation of a supplemental building code which detailed appropriate construction techniques for high hazard coastal areas. FEMA also provided funds for a land use plan. The consultant hired to prepare the plan, however, worked instead on the more immediate problem of revising the outdated zoning ordinance. Over two years of reconstruction and development took place before these became effective. Finally, in 1981, the Building Code supplement was passed and, in 1982, the zoning ordinance was approved with revisions.

The town's economy and municipal budget recovered quickly from the storm. "Freddy," as the residents refer to the storm, is partly credited with initiating a lucrative development boom which began while reconstruction was still underway. Local realtors suggest that development pressure had been growing in the Gulf Shores area and that the storm created an excellent opportunity for developers to acquire beach front property with the older structures conveniently removed. Numerous property owners, many who were receiving flood insurance payments for their destroyed buildings, apparently could not resist offers for their vacant land at ten to twenty times its original value. In the two years following the storm, the town issued 77 permits for multi-family developments. Many of the units were located in the Gulf front area.

The pace of development sparked public protest over the lack of aesthetic and environmental controls assigned to beachfront building. Minimum sideyard setback regulations, for example, were successfully added to the zoning ordinance when it became increasingly apparent that continued lot-line to lot-line building was blocking the view of the Gulf. Despite their disdain for private property regulations, Gulf Shores decision-makers became increasingly receptive to development management measures as the pace and density of development reached overbearing levels. Recent problems with poor water quality and an inability to provide water service at a rate equal to demand has added to local interest in development management.

Galveston Bay, Texas

Galveston, Texas is located on a barrier island twenty-eight miles long and one-half to three miles wide. It is immediately south of Galveston Bay and

revisions to the code

disaster-inspired urban renewal

unwieldy bureaucracy

ignoring rules to speed rebuilding

the Houston Metropolitan area. The city has a long history of storm disasters. In 1900, a very severe storm killed more than 6,000 people. Following this storm, the town was rebuilt, elevated with fill, and a massive seawall was constructed in front of the city for protection against future storms. After successive storms, and as the city expanded, the seawall was strengthened and extended to its current 9.7 mile length and fifteen foot height. In this century, hurricanes have struck the Texas coast an average of every two and a half years. Galveston Island, in particular, has been hit by eight severe storms preceeding Alicia (1900, 1915, 1919, 1933, 1942, 1961, 1967, and 1970).

Given the city's maligned history, it is not surprising that the area has a high degree of hurricane hazard awareness. Unfortunately, government response to these storm hazards has been oriented to improved barriers and improved evacuation plans rather than loss prevention efforts. The state is known for its large structural protection works and its comprehensive hurricane evacuation and education program. The use of planning techniques to reduce the amount of property at risk from storm damage, however, has not been seriously considered.

Hurricane Alicia struck the Texas coast on August 17, 1983. The eye of the storm passed just south of Galveston Island. It was a medium size storm with winds up to 115 miles per hour, and a storm surge of 6 to 10 feet. The land protected by the seawall was the only area on the island that escaped flooding. The structures behind it suffered only moderate wind and rain damage. Low lying areas did not enjoy such protection, however. In the north end of the bay, a twelve foot storm surge from Galveston Bay destroyed 300 homes in the Brownwood subdivision of Baytown. Throughout the island, over 1000 single family homes were destroyed and an additional 6,700 received major damage (McCloy and Huffman 1985).

In the aftermath of the storm, a 1362 acquisition project was suggested by the FEMA Interagency Hazard Mitigation Team for the Galveston Bay area (FEMA 1983a). The teams were established to promote a comprehensive, intergovernmental approach to flood hazard mitigation during the post-flood recovery process. Under the guidelines of the program, the FEMA regional director appoints a team of FEMA experts, key federal agency representatives, and state and local representatives to study mitigation strategies for local areas. Specifically, the team's

recommendations are to emphasize non-structural mitigation measures, and to better ensure that the various federal agencies involved in post-disaster aid emphasize mitigation of future flood damages. In a recent article on Disaster Recovery and Hazard Mitigation, Rubin (1985) indicated that the teams have had a significant effect on the identification and implementation of mitigation measures at the city and county levels after a major flood-related disaster.

The Team issues two reports: (1) the Interagency Flood Hazard Mitigation Report, which is released fifteen days after the disaster with its suggestions for post-flood mitigation measures, and (2) the Interagency Post-Flood Recovery Progress Report, released 90 days after the disaster which details progress on each of the original mitigation proposals (see FEMA 1983a, 1983b). The Hazard Mitigation Team following Alicia suggested a number of non-structural mitigation techniques, including a land acquisition project for the Brownwood area.

For Galveston Island, the report suggested that the city prepare a comprehensive land use plan to guide development on the largely vacant west end of the island. It was argued that this plan should take account of the environmental needs of the barrier island system by using carrying capacity principles. Those long range planning recommendations were the suggestions of hazard mitigation planning experts who observed the recovery process and volunteered as participants on the Hazard Mitigation Team. The remaining recommendations for the Galveston area centered on improvements to the building code, increasing local evacuation awareness, and holding seminars for local builders on hurricane resistant construction. The Hazard Mitigation Team's recommendations were advisory, and had no financing or enforcement power. According to section 406 of the Disaster Relief Act which authorized the teams, long term implementation of the team's suggestions are the responsibility of the affected states.

Another change in federal policy since 1980 involves the size of the reimbursement allowance from Federal Disaster Relief. Today, the FDR will reimburse local communities for only seventy-five percent of their eligible expenses; local or state government are responsible for the remainder. This policy was especially burdensome for the City of Galveston because of a locally mandated cap on budget increases and the large proportion of tax-exempt property within the city.

After the storm, Galveston adopted a three week development moratorium on reconstruction in the

a maligned history

comprehensive
intergovernmental
approaches

non-structural mitigation
techniques

increasing evacuation
awareness

west end of the island. The prohibition did not apply to structures that only needed minor repairs or for structures landward of the main beach highway. The moratorium was extended for two more weeks for property that was between the beach highway and the Gulf which included most of the V zones where the damage was heaviest. The storm had eroded the beach front property and shifted the vegetation line as much as 200 feet landward. The extended moratorium was requested by the State because the Texas Open Beaches Act stipulates that the public beach extends from the water's edge to the vegetation line. After this large landward shift, hundreds of homes were situated on property which the State Attorney General claimed was public, and rebuilding was prohibited if structures were more than 50 percent damaged.

In addition to the building moratorium, the city created a Recovery Task Force. The Task Force was comprised of a number of subcommittees covering a range of concerns from insurance problems to building code modifications. The subcommittees were mainly staffed by community leaders and citizens who volunteered their expertise to help the recovery process. The work of the Task Force seems to have served a number of important functions: 1) it diverted pressure away from the overworked city council; 2) it provided an excellent mechanism for channelling local expertise (such as architects, builders, mental health experts) into the policy-making arena; and 3) it provided the community with a much needed sense that their issues and concerns were being addressed and that the city government was responsive and organized despite the post-disaster confusion. The most effective subcommittees were those that addressed immediate recovery concerns such as insurance problems, or short term housing needs. The longer-range subcommittees (such as one for redevelopment of the west end of the island) were less effective in producing substantive recommendations; members indicated that interest flagged in the months following the storm as the most pressing community issues were resolved.

Sixteen months after Hurricane Alicia, the storm was credited with initiating economic revitalization of the seawall-tourist area. Many of the hotels along the strip were badly in need of remodeling, and the convention business had been decreasing in recent years. Although protected from the storm surge by the seawall, most of the motels and hotels received extensive wind and rain damage. Insurance payments provided remodeling and refurbishing capital.

Galveston, in a continued attempt to bolster its property tax base, is now encouraging higher density developments on the west end of the island through tax-increment financing. The financing scheme uses the increased property taxes which result from the new development to finance the development's infrastructure costs. There are nine zones in Galveston: seven in areas unprotected by the city's seawall; two on the east end of the island, in an accreting beach area in front of the protective seawall; and five on the low-lying west end of the island (Hegenbarth 1985b).

the value of task force
decision-making



Chip Taylor of Carolina Beach has his daughter, Kelli, all wrapped up as they wait to see if they can return home.

Jack Upton

Discussion

Each of the community experiences discussed above is a unique situation. The cities are of varying sizes, in different states, with different economic trends and community values. The recovery and reconstruction experiences were heavily influenced by the current forms of federal disaster assistance. In this manner, the communities represent a chronological sketch of changing federal disaster relief policy: before the NFIP and FEMA; with the NFIP and early FEMA; and with the NFIP, FEMA, and the new Interagency Hazard Mitigation Team. Nevertheless, there are a number of reconstruction trends and similarities within these communities.

One of the most obvious is the desire of the community to recover and reconstruct as quickly as possible in an attempt to return to normalcy. Haas et al (1977), in the landmark piece *Reconstruction Following Disaster*, states that during the reconstruction period, "[t]he central issues and decisions are value choices that give varying emphasis to the early return to normalcy, the reduction of future vulnerability, or to opportunities for improved efficiency, equity, and amenity." After a storm, some repairs will begin immediately, such as those to public water and sewer, electricity, and the road system. Unless plans have been made preceding the storm to relocate or redesign these facilities, the sense of urgency to replace these may preclude hazard mitigation opportunities, as evidenced in Gulf Shores. This sense of urgency also affects residential reconstruction. Homeowners living in temporary housing want to repair their homes and move back in as soon as possible. Haas mentions that the strongest pressure of all for a prompt return to normalcy comes from the existence of impacted and displaced families and businesses, and adds that these pressures do not create a positive environment for orderly, well-planned reconstruction processes.

These pressures were particularly felt by those members of the community who were in positions to either speed or delay the reconstruction period. Building Inspectors in both Galveston and Gulf Shores felt strong pressures to be lenient in issuing building permits to allow rebuilding. This was most intense when the building was non-conforming to current codes, and heavily damaged. In Gulf Shores, structures damaged more than 50 percent by law had to conform to the new building code and NFIP elevation requirements, which could have added substantially to the reconstruction costs of a non-

conforming building. Particularly when the homeowner did not have insurance to cover the losses, much less the cost of rebuilding to higher standards, officials felt severe pressure to be lenient with neighbors who had "suffered enough already." In Texas, the Open Beaches Act prohibiting reconstruction was only applied to structures more than 50 percent damaged, but sympathetic local inspectors generally issued rebuilding permits to structures which had any exterior walls remaining. Policies set in place before a disaster regarding these decisions and specifying explicit criteria would help ease the discretionary pressure felt by local officials. In addition, bringing in temporary inspection officials would help reduce the massive workload increase, and non-members of the community would be able to make politically difficult decisions more objectively.

In addition to the psychological stresses created during the initial recovery and reconstruction period which may work against new hazard reducing development policies, the storm may also produce some long-term community perceptions that could work as obstacles to the enactment of new hazard mitigation policies. A post-storm perception expressed in all three communities was that damages were a function of substandard construction. Indeed, all the communities had large numbers of severely damaged homes which were constructed prior to building code and elevation requirements. Building codes, elevation requirements, and hurricane resistant construction will, of course, help reduce the level of damages but as the hurricane-proof house in Harrison County dramatically illustrated, they should not be regarded as a panacea for safe shoreline development.

In Galveston and Gulf Shores, it is possible that the newer requirements for building codes and minimum elevations are perceived as having had a significant effect on reducing storm damages. Attitudes expressed in interviews, however, indicate that these may have had the detrimental effect of lulling the communities into a false sense of security regarding their ability to survive another major storm without sustaining heavy damages. Policy makers concerned with hazard mitigation may have to overcome this community perception before other development management techniques become politically viable.

Well-publicized evacuation plans and procedures can also add to a false sense of community security. People may be less likely to actively support hurricane-hazard mitigation policies if they perceive that they are no longer in any danger. In an area with

economic revitalization

reduce future
vulnerability

returning to normalcy

lenient damage
assessment

limited access, this will become increasingly important as the population size at risk increases beyond the evacuation capacity of the road system. In Galveston, the evacuation demand is already greater than the current evacuation capacity, and evacuating residents could be placed in severe danger during a full scale evacuation of the island. Residents, however, seem to express an attitude that if there is a storm threat, "they will just get up and leave the island," not taking into account that the rest of the local population has similar plans.

Another community perception evident in both Galveston and Gulf Shores was that the hurricane had assisted in producing an economic revitalization and development boom. After a storm, the large influx of non-local funds from federal and insurance sources seems to create a heady, almost "boomtown" atmosphere. With the stress and tension of the immediate recovery period behind them, the post-storm impressions of community inhabitants seemed to concentrate on positive economic impacts that the storm initiated. Even in Harrison County, which did not experience a significant development boom following Camille, there was a "renewed spirit in the communities to build back bigger and stronger than before" (Leyden 1985). The mayor of Gulf Shores commented that, for his community, there was "a definite silver lining to the storm."

While the hurricanes did not *produce* the economic boom that occurred afterwards, the storms appear to have stimulated the processes and shortened the time span over which development might have otherwise taken place. The coastal disaster created excellent opportunities for developers to acquire cheap land, and to approach numerous land owners who might be more receptive to selling their land after their homes were severely damaged and after they had received insurance payments. Policymakers will have to consider these economic development forces for two reasons. First, the stronger the development forces in the private marketplace, the more likely that these forces may work against innovative mitigation efforts, particularly non-structural flood-hazard mitigation efforts (see Rubin 1985). Second, and more subtly, it appears that the economic boom and financial benefits which residents enjoy as a perceived result of the storm, may tend to overshadow and downplay the damaging and painful effects that the severe storms produced in the community. This may lessen the community-based support and interest for hazard mitigation and pre-storm disaster planning.



While each coastal community will respond and react to different forces following a severe storm, planners and policymakers in hurricane prone communities need to acknowledge underlying perceptions and trends which may act as obstacles to enacting hazard mitigation policies. The communities discussed here were all Gulf coast communities: traditionally very conservative regarding regulation of private property, and not historically innovative in planning techniques. In areas similar to these, the greatest success for the adoption of hazard mitigation regulations appears to occur when the proposed regulations will further other community objectives which are capable of arousing sufficient community support to overcome the obstacles to their enactment. Examples of community goals which might receive a broader based support are aesthetics, or open space and beach acquisition.

Where development interests are strong and the localities conservative, the few coastal development

a false sense of security

a boomtown atmosphere

downplaying the damage

continued on page 43

Justice in the Community: Strategies for Dispute Resolution

Rob Gelblum

Rob B. Gelblum recently received his Juris Doctorate and Master of City and Regional Planning from the University of North Carolina at Chapel Hill. Gelblum gained experience in community justice planning through his association with various progressive political organizations throughout the United States.

Effective dispute resolution is an important attribute of stable community relations. In many western societies, however, traditional court systems have proven incapable of handling the increasing numbers of cases before them. The costs of formal adjudication have also been prohibitive for many groups and individuals. In an attempt to advance a more equitable and more responsive means of resolving community and interpersonal conflicts, mediation and arbitration strategies have been developed in many communities.

Gelblum's article describes the role of dispute centers as an institutional source of conflict resolution. These organizations provide a framework for cooperative, negotiated dispute settlement. The Chapel Hill Dispute Settlement Center is presented as a case study of effective community conflict mitigation.

Disputes seem inevitable, both at the intergroup and interpersonal levels. Conflict has been with us since "time immemorial" and shows no signs of abating as a human activity. Anthropologists Laura Nader and H.F. Todd, Jr. (pp. x-xi) list the following as the components of a dispute: that which is disputed, the parties to the dispute, presentation of the dispute, procedure or manner of handling, termination of the grievance and enforcement of the decision.

The desire to resolve conflict is a natural function of social organization. Mediation is an embodiment of that desire; its cultural and historical roots are deep. It is a practice, moreover, which has become increasingly important for many American communities in their efforts to create cooperative, productive and healthy social environments.

In most developed societies there is a state apparatus for handling disputes: a formal and hierarchical legal system is its usual form. The common law tradition followed in the United States employs an adversarial system of adjudication. Two champions (the lawyers) meet on the field of battle (the courtroom), with one side emerging victorious and the other vanquished. The winner is chosen by a judge or jury with the decision based, theoretically, only on the letter of the law. Despite risks and complexities of the legal process, increasing numbers of Americans are using the courts to resolve their disputes. This heightened demand has created a severe backlog of cases at every level of the judicial system.

Compounding the problem is the fact that cases in progress sometimes take years to settle; costs have risen proportionately.

In defense of the legal edifice, one institution deserves at least qualified praise — small claims court. It is used by many as means of redress for minor civil grievances. Small claims courts feature "informality, the willingness to mediate and to concede, the waiving of formal rules of evidence, and, above all, the willingness to substitute goodwill and compromise for the adversary process" (Alper & Nichols, p. xvi). Unfortunately, its limitations — the restriction to civil cases, the minimal amounts that may be sued for, the frequent difficulty of enforcing judgments and the specter of delay — leave many of its users dissatisfied.

Alienation from the traditional court system has become widespread. Many feel that the courts dispense anything but justice, and that only in the most cumbersome and convoluted manner. Into this breach have rushed new community modes of justice, which "do not rest on a foundation of innocent-guilty, right-wrong, win-lose, victor-vanquished. The foundation here is one of healing, of reconciliation of defendant with complainant as well as with the community" (Alper & Nichols, p. xii). It is as if many are saying "justice is too important to be left to the justices."

In places small and large, urban and rural, all over the country, people are involved in alternative programs such as mediation, arbitration, restitution,

mediation versus
adjudication

alienation from the
traditional court system

victim assistance and compensation, and citizen panels which advise on sentencing. Community participation in the dispute resolution process provides perhaps a negative commentary on our legal system. At the same time, it may be viewed as a positive reflection on the concern and resourcefulness of many citizens nationwide. This is not to imply that grassroots justice has arisen overnight. As Alper and Nichols (p. xvi) note, "the idea of community involvement in the settlement of disputes is as old as the first families of humans who came together to form a clan. Responsibility for the resolution of conflict and the dispensation of justice is the cornerstone of any society."

Even segments of the legal profession have rallied around alternative dispute resolution. Out of a 1976 conference on the "Causes of Popular Dissatisfaction with the Administration of Justice," commemorating a 1906 address by eminent American jurist Roscoe Pound on the same theme,¹ emerged an American Bar Association Special Committee on Alternative Dispute Resolution. Promotion of "dispute resolution centers" throughout the nation is the committee's charge, and it seeks to accomplish that by:

- maintaining a clearinghouse of information on dispute resolution which is easily accessible;
- producing publications including the quarterly newsletter, a bibliography, and a directory, and
- providing technical assistance on request (Ray 1981).

Examples of specific actions taken by the committee are:

assisting the United States Justice Department in the development of the Neighborhood Justice Center Demonstration Program and Experimental Grant-in Aid legislation to stimulate further efforts; presentation of a major National Conference on Resolution of Minor Disputes (Columbia Law School, May 1977); maintenance of contact with almost every operational dispute resolution project in the country, with informational data files on each; assisting in the development of the proposed Federal Dispute Resolution Act (PL96-190) [which passed on February 12, 1980. Though not directly funded, under the Act, the Department of Justice is assisting 18 states in formulating dispute resolution legislation (id., Foreword)] (id.).

Of course the administration of justice is hardly the only front which has seen a recent resurgence of citizen involvement and participation. Community development has remained vital, even during the "dormant '70s," through the establishment of neighborhood associations, citizen crime-prevention programs, health centers, community schools, food cooperatives and community corporations for the rehabilitation of deteriorated housing (Alper & Nichols, p. xviii).

Though a broad scale community justice movement is only now discernible in the United States, examples of such abound throughout the world.

For instance, lay judges now participate in the courts of many European countries, including socialist nations. For many years now, the Scandinavian countries have entrusted the hearing and adjudication of children's cases to child-welfare boards composed of elected lay persons from the community, which take the place of the juvenile court as we know it. The British magistrate's courts continue to operate in a fashion similar in many respects to our American Justices of the Peace. We see the emergence of special courts for labor disputes, as in Israel.

The approach of community-justice bodies is also being used on an increasing scale in family courts and in the juvenile courts now found in every major country of the world. Housing courts and special tribunals for the hearing of consumer complaints are two additional specialized tribunals coming into their own.

In various ethnic groups we find modern application of a procedure that dates back to biblical times—for instance, the Beth Din found in Jewish communities in the United States, whose roots go back to the Sanhedrin courts. Today's Gypsies, whose origins are lost in antiquity, continue to practice their ancient procedures for resolving disagreements between individual members of their group. The Panchayat courts of India, supplanted during the centuries of British colonial rule by the common-law procedures of the home country, are gradually replacing this alien imposition on their historic ways of administering justice. The socialist countries, none of which has a common-law precedent, especially those whose court procedures are more likely to be derived from Roman or Napoleonic people's courts,

grassroots justice

legal profession support
for alternative dispute
resolution models

European systems of
law

where lay persons, whether as prosecutors, defense counsels or judges, supplant the legally schooled professionals who administer the courts in our country (Alper & Nichols, pp. xvii-xviii).

As appealing as community-based modes of justice are, there are impediments to their growth. The above-cited work of the American Bar Association notwithstanding, the institutional barriers are, in large part, reinforced by the legal profession. There are, of course, many attorneys supportive of

professionals are virtually uninformed about the range and consequences of the legal problems that plague ordinary citizens" (*id.*), and the magnitude of the obstacles becomes clear.

Impediments (e.g., the legal establishment), which can be confronted directly are sufficiently formidable. Beyond them lies the arguably more fundamental problem posed by a society that has evolved from one consisting of stable, cohesive communities with shared values, to one evidencing great mobility and a disparity of norms within communities. Com-

impediments to community-based justice



informal dispute resolution methods. On the whole, though, the profession has "little incentive 'to create new legal institutions to facilitate the resolution of disputes outside the courtrooms' " (Nader & Singer, pp. 314-315, in Alper & Nichols, p. 243). These are times of economic scarcity. It is difficult to find examples of economic altruism in any occupation, especially perhaps when the number of practitioners has increased as dramatically as in law. Lawyers are also disproportionately represented at both the state and national legislative levels, where much can be done to retard or foster alternatives to the legal process. Add to this the fact that "the social distance between the legal profession and the mass of middle-income Americans has increased so that most pro-

cesses displaying strong consensus around notions of fairness and justice have given way to polarized groupings bonded tenuously by a highly sophisticated legal culture. This state of affairs complicates the process for a transition to grassroots forms of justice.

Aside from the factors militating against the predominance of community dispute resolution, there is an aspect of the phenomenon which creates cause for concern. Wholesale use of the new schemes could bring many individuals to the "bar of justice" who might not otherwise have been ensnared. That is, if grassroots justice is made widely available and unqualifiedly promoted, numerous complainants may "press charges" concerning matters that could be worked out without institutional aid. The dispute

a lack of incentive to create a new legal institution

handling mechanism could become overburdened; just conflict resolution would remain illusive.

The pitfalls notwithstanding, the potential of community-based justice is great. Throughout the country, people are organizing to effect this goal; their success bodes well for all of us. Clearly, if individual conflict resolutions are to command greater respect, they must be the product of an "organic" process embodying community values.

Mediation

In mediation, a third party facilitates agreement between or among disputing parties. "[T]hird parties have, or should have, the objective of changing the relationship between the parties from a destructively competitive win-lose orientation to a cooperative, collaborative problem-solving orientation" (Fisher, p. 81). A requisite element of the process is the disputants' acceptance of the mediator's intervention. Together, the contending parties and the mediator resolve the parties' differences and attempt to formulate a mutually agreeable settlement. Though mediated resolutions do not legally bind the disputants, it is anticipated that the provisions of any agreement will be honored by virtue of the parties' mutual interest in termination of the conflict.

Mediation has grown increasingly popular over the past two decades. Creative citizens and organizations have found ways to apply it successfully in contexts as varied as environmental, labor-management, budgetary and interpersonal conflicts (the latter includes domestic quarrels and squabbles involving landlords and tenants, merchants and consumers, and neighbors). The National Center for Dispute Settlement of the American Arbitration Association, the United States Department of Justice's Neighborhood Justice Center and many local groups around the country are actively pursuing the use of mediation (Susskind and Ozawa, p. 22).

Mediation is an appealing form of dispute resolution. The judicial system gains in many ways. Staff (judges, police, prosecutors and the rest) are spared the time and risks involved in cases that go to mediation. For example, family quarrels, which are often mediated when the option is available, account for approximately 20% of police deaths and approximately 40% of police injuries (Alper & Nichols, p. 131). Jails become less crowded and the burden of bail is eased. Perhaps most important is the heightened respect for the legal system that fair mediation engenders. Those who have become alie-

nated from the system may no longer equate justice with harshness and inequality, but may come to view the concept as connoting fairness, restitution, peacemaking and the meeting of needs (*id.*). Recidivism is understandably low among those whose complaints are resolved through mediation.

The disputants are the beneficiaries of lowered hostility, aggravation and tension when their grievances are successfully resolved. In contrast, judicially settled conflicts tend to inspire sharpened antagonism. Mediation occurs at the convenience of the participants, rather than at the behest of a court. Losses of wages and time are thereby avoided. Most interpersonal disputes can be settled in one to three sessions. The disputants formulate their own decision, rather than having one foisted on them by judges and lawyers. Finally if there is a loser, penance is in the form of payments or constructive tasks, not in the form of a criminal record.

Mediation's greatest beneficiary may be the community. For example, the demoralization resulting from disputes which have been ignored or relegated to the courts is ameliorated. Mediation can allay tensions and possible violence which could result from unchecked community conflict. Indirect benefits include enhancement of a community's dispute handling resources, and an improvement in community ambience.

Mediation differs from arbitration. Though the two share the negotiation process, the latter entails the imposition of settlement. According to Meyer (p.164): "Mediation and arbitration have nothing in common conceptually. One involves helping people to decide for themselves while the other involves helping people by deciding for them."

The Chapel Hill Dispute Settlement Center

Chapel Hill, North Carolina boasts an outstanding example of a community-based mediation service. Though the Chapel Hill Dispute Settlement Center did not open its doors to disputants until summer of 1979, the need for a community-based mediation center was first articulated in the early 1970s. The center was born from a court monitoring program initiated by two women of the local chapter of the Women's International League for Peace and Freedom (WILPF), at the instigation of the Interchurch (now Interfaith) Council. The Center's organizers believed there were better ways than adjudication to handle particular types of disputes, especially those

the potentials of
community justice

accepting a mediator's
intervention

mediation and
arbitration

funding for a dispute center in Chapel Hill

involving people in ongoing relationships. They felt that court disputants were shortchanged; they also argued that there were better uses for the judiciary's time.

Over a period of several years, the women amassed documentation on mediation and assessed its appropriateness for the Chapel Hill area. An important event was a Chapel Hill visit, in 1973, by a representative of the American Arbitration Association (AAA) who had been instrumental in starting the Dispute Settlement Center in Roxbury, Massachusetts. Interest which later bore fruit was piqued at that time.

In the summer of 1976, after three years of court watching, another AAA representative visited Chapel Hill. The result of his well-attended and well-received talk was the successful funding of a local dispute settlement center. The Orange County Board of Commissioners allocated money in October 1976 as did the Chapel Hill Board of Aldermen in spring 1977. The Orange County Bar Association, contrary to the norm elsewhere, helped complete plans for a Center.

staffing the center

With funding still a problem, the nascent Center was fortunate in procuring gratis the training services of a retiring woman attorney from the Community Relations Service of the United States Department of Justice. Of the fifteen mediators trained then, twelve remain with the Center. In the summer of 1979, key subsidies were obtained from the North Carolina General Assembly and the United Fund. The funds were used, in part, to hire a director who in turn procured grants from the Reynolds and Babcock Foundations. Though hardly well-endowed, the Center was able to hire another staff person, and recruit and train people to staff dispute settlement centers across the state. These efforts resulted in the establishment of ten additional centers, in cities and counties around the state. New center locations included Greensboro, Raleigh, Durham, Winston-Salem, Charlotte and Chatham County. Three more, in Burlington, Asheville and Hendersonville, have opened their doors within the past year.

goals of the center

At the Center's headquarters in Chapel Hill, three staff are employed: a director, a caseworker and a clerical worker. Six funding agencies subsidize the Center: the towns of Chapel Hill, Carrboro and Hillsborough, Orange County, and the Chapel Hill-Carrboro and Orange County United Ways. As an indication of the growing demand for the Center's services, in fiscal year 1983, 441 cases were pro-

cessed; in the next fiscal year, 650 cases were brought to the Center.

The Center divides its cases into two sources, "Court" and "Community". The former includes cases referred by the District Attorney (a longtime friend of the Center), private attorneys, "self", the police, judges, magistrates, the Sheriff's office and "other." What they all have in common is that a warrant has been issued in the matter; if it is resolved, all charges are dropped. Cases referred range from assault (from simple assault to assault with a deadly weapon), to communicating threats, trespass, injury to property, breaking and entering, and larceny. The court category accounted for 53% of the Center's cases in the 1984 fiscal year.

"Community" cases are those brought to the Center directly by local citizens. Forty-seven percent, or 226 of fiscal 1984's cases, arose in such a manner. The most numerous categories of such cases are "Domestic/Family," "Roommates," "Money Claims," "Neighborhood," "Landlord/Tenant," "Customer/Business" and "Miscellaneous."

Within the last two years a Hillsborough satellite office has opened. Its case load currently represents about 31% of the Center's total. Interestingly enough, Hillsborough's Court/Community mix is the reverse of that in Chapel Hill. Whereas 65% of the cases handled at the Chapel Hill office stem from the community, 65% of those in Hillsborough are subsumed under the court label. As popular as the Center has become with the authorities in Chapel Hill, in Hillsborough it is even more so; there, many of the same defendants habitually move through the judicial system on charges such as drunkenness and barroom brawls.

The Centers' services are offered absolutely free, though most disputants heed the fact that contributions are welcome. The only exception to the no fee rule is for divorce and separation cases, where \$10 per couple is charged for the first session and \$20 for any subsequent ones. The average annual income of the Center's disputants is under \$10,000.

Fitting the overall mediator staff to the demographic profile of the community, and each case's mediation team (Center mediators work in pairs) to the disputants, is important to the organization. Correspondingly, 29% of the mediators are black and 58% are women, with ages ranging from early 20's to 80. Three male mediators were recently added, bringing the total of all mediators to 34 (26 in Chapel Hill, 8 in Hillsborough).

The director describes the Center as having three

main goals: help disputants find a mutually agreeable solution while maintaining their dignity; create a more harmonious relationship between the disputants; relieve tension in the community. The Center's success is testimony to the effectiveness of mediated dispute resolution. In a survey of mediations conducted 4½ years ago, 85% of Center-facilitated resolutions were still intact. Also, of 172 cases commenced, 156 were successfully mediated to an agreement in fiscal 1984 through the first three quarters of this fiscal year.

Justice, of course, has many different meanings to many different people. Most would probably agree, however, that community roots are desirable in a system of dispute resolution. This is what institutions such as the Chapel Hill Dispute Settlement Center have to offer, and nurturing of such places by communities seems well-advised as part of a plan to improve morale and the quality of life.

A Role for Planners

The fact that there is little recognition of a specialty within the field called "justice planning" notwithstanding, it arguably behooves professionals working in all aspects of human services to foster non-adjudicative modes of dispute resolution. In 1959, President Dwight Eisenhower said, "[P]eople want peace so much that one of these days government had better get out of their way and let them have it." Though people may well want alternatives to litigation as badly, planners should do more than get out of their way. They should, through demographics, court statistics, and consultation with legal system personnel and community representatives, endeavor to ascertain a desirable alternative dispute resolution mechanism for the community in question. Clearly, a planned response to frustration with the judicial system makes far better sense than an ad hoc one.

Postscript

Given the current funding priorities and political interests of the Reagan administration, it is clear that communities can expect little support from the federal government. In the name of market-motivated prosperity, towns and cities have been left to drift. There seems to be little on the horizon, in terms of federal initiatives, that promises to ameliorate the plight of those passed over by Reagan's magic wand. These, arguably, are the ones with the most to gain from the advent of community-based

dispute resolution. Not that such a program could ever be a panacea for the woes of those who have "fallen through the cracks," but dispute resolution on a more human scale might serve as some sort of lightning rod for community tensions. One senses that, in some quarters, as straitened conditions give rise to an escalating level of interpersonal conflict, alienation from the court system may likewise increase.

justice planning

NOTES

1. Among Pound's concerns were the limited access to justice caused by the delay, high costs, and intimidating character of the courts; the failure to achieve substantive justice caused by the nature of the adversary process and overriding concern with the etiquette of the law; and the inevitable inability of courts, guided by general legal principles, to make decisions responsive to the subtle variations among cases (Dubois, p. 61).
2. To date, 170 communities in forty states have established "dispute centers" (also known as "neighborhood justice centers," "citizen's dispute settlement programs," and "night prosecutor's programs"). In addition, more than 400 private agencies and city government entities are involved in providing informal processes to resolve citizens' problems (Ray 1981, Foreword).

future prospects for
financial support

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Coastal setbacks is another tenable means of development management. Coastal setbacks can assure protection of beach access and continued development of the local economy in addition to reducing flood damages. Local planners must begin to capitalize upon this "strategic dovetailing" of local concerns.

Higher levels of government, and particularly states, may play an important role in assisting planners and policy makers in overcoming local political opposition to hazard mitigation. The North Carolina coastal management program now requires coastal jurisdictions to develop hurricane mitigation and post-storm reconstruction plans as part of their local land use plans. This type of extra-local requirement deflects political opposition from the local to the state level, and allows local supporters to point to state requirements for justification and support for local efforts.

The importance of particular arguments against the use of development management is also apparent from the survey. This strongly suggests the need for local planners to be able to explicitly address and respond to these challenges. Mitigation proponents should not permit arguments against the legality or constitutionality of a proposed development management measure, for example, to jeopardize its adoption and effective implementation. Planners should be prepared to respond knowledgeably and authoritatively to these arguments in order to inspire a more comprehensive and effective storm hazards mitigation program for high risk coastal area.

NOTES

1. See Beatley, Brower, Godschalk and Rohe, 1985, for a complete review of the findings of the questionnaire. This report can be obtained by writing to the Center for Urban and Regional Studies, 108 Battle Lane, Chapel Hill, N.C. 27514.
2. These were communities for which an additional wave height (under a new methodology) had been or was in the process of being computed. As a further check, NFIP State coordinators in every surveyed state were asked for an independent list of localities with V-zones in their states. Because we felt that very small coastal localities were unlikely to be undertaking development management programs, localities of less than 1,000 population (as of the 1980 census) were not surveyed.
3. A follow-up to non-responding localities allowed us to eliminate 15 localities without coastal storm hazards, bringing our overall survey population to 621, and increasing the final response rate to about 68%.

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intergovernmental
approaches

comprehensive and
effective storm hazards
mitigation program

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regulations existing have been state or federally mandated. State and federal programs need to continue to provide muscle for the adoption of hazard mitigation policies, and should perhaps be assessed to insure that existing programs are not providing any additional incentives for unwise coastal development.

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landscape architecture
historic preservation

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ganizations and institutions are in place to provide additional support for worker-ownership, including Twin Streams Education Center, Guilford College's Democratic Management Program, and the North Carolina Legal Services Resource Center.

Twin Streams Education Center director, Wes Hare, runs workshops to help worker-ownership organizers learn group process skills, and develop understanding and support for non-hierarchical, cooperative working relationships. Twin Streams has provided organizational support to many low-income community groups faced with job loss. Educational and organizational development support is one aspect of grassroots economic development that is too often neglected by planners. This support is essential for a successful regional worker-ownership strategy; finance packages alone cannot create nor sustain a cooperative.

The needs of low-income cooperatives are also met in North Carolina through the Legal Services Resource Center. Community Economic Development Specialist Deborah Warren coordinates legal and educational support and provides financing and business assistance. Ms. Warren also works with the Center for Community Self-Help and other advocates to promote legislative policy which encourages cooperative development.

A common problem faced by worker-owned firms is that of obtaining and developing effective and skilled managers. Guilford College in Greensboro currently offers an undergraduate specialization in democratic management and employee ownership. Courses are offered to undergraduates and co-op members on workplace education as well as business management. The program is a unique component of the North Carolina worker-ownership model; one designed to ensure that trained and committed assistance will effectively guide the organization as it develops.

Conferences

One thread that ties the various support agencies and cooperative business together are worker-ownership conferences. At the 4th annual worker-ownership conference at Guilford College in June 1984, over 100 worker-owners, advocates and assistance providers gathered for a weekend to share skills and experiences, announce the accomplishments of North Carolina's cooperatives, and to outline strategies to meet the continuing educational, financial

and technical needs of the state's cooperatives. Workers from eight of North Carolina's cooperatives: Busy Needle sewing company; The People's Voice newsletter; Space Builders construction and architecture design company; Service Printing Company; Community Insurance Consultants; Pascal & Associates computer firm, and Alamance Workers Owned Knitting hosiery company, participated.

Such conferences are a valuable part of a regional worker-ownership strategy. They are important extensions of the training and community education process. Conferences are also essential vehicles to maintaining open communication between worker-owners and support agencies. Conference recommendations, moreover, provide guidelines for agency priorities.

A common dilemma encountered by North Carolina's cooperatives located in rural areas is the difficulty of expanding product markets. A Northeastern North Carolina Trade Show, held June 1, 1985 in Elizabeth City, was the first conference aimed specifically to product and service promotion. The Trade Show, sponsored by a recently formed community development support coalition, Northeastern Research and Development Group, featured educational seminars for the general public and extensive skills-based seminars for agricultural, worker and craft cooperative members.

The North Carolina model of worker-ownership promotion is a coordinated system of organizations providing a full range of educational, financial and technical assistance. Many similar resources are available in regions and communities suffering from plant closings. To help mitigate the industrial restructuring process, planners and community organizers must design worker-ownership strategies and develop resource organizations to provide appropriate technical and financial assistance for their success. This strategy is within reach of planners searching for a job creation and retention strategy which transforms the tragedy of plant closings into an opportunity for economic democracy and community development.

For information about current worker-ownership efforts in particular states or regions throughout the United States, contact the National Center for Employee Ownership, located in Arlington, Virginia. For information about the Center for Community Self-Help or the Self-Help Credit Union, call (919) 683-3016 or write to P.O. Box 3259, Durham, North Carolina 27705.

successful regional
strategies

ensuring the continued
operation of local
industries

easing the process of
restructuring

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lify such problems. More complex are the dissimilar expectations and assumptions of key managers involved in disaster relief.

Many studies of private sector management have found that decision makers tend to act on what they know, sometimes to great disadvantage in the face of changing environmental demands (Smart 1978). New organizational planning processes have been developed whose objective is to "surface strategic assumptions" among the key actors in large institutions (Mason and Mitroff 1981). The focus of these procedures is not on facts and expertise, but on the perceptions and assumptions made by individuals. A similar process for sharing assumptions is needed in community disaster planning—one that falls somewhere between the seat-of-the-pants decisions of an exercise and the boring nature of research reports. Although these kinds of opportunities are becoming more available at FEMA's National Emergency Training Center and the State of California's Special Training Institute, limited numbers of training facilities cannot meet this demand on a national scale.

This is certainly an area where professional planners can play a role, although opportunities are currently scarce. The most contact that the average local planning director has with the disaster planning process is receiving a copy of the new plan every few years and finding that he or she has been designated director of emergency housing in event of a disaster. As one planning director pointed out to us, though, there are techniques for participation and surfacing objectives that are planners' stock-in-trade, and these may be applicable to the complexities of disaster planning.

There is also a lesson in disaster planning for planners that are concerned with the difficulties of anticipating remote and unfamiliar community crises. A major transportation shutdown or water shortage requires a number of complex actions by a variety of agencies—many of which are unaware of how a total response should be coordinated (see Meyer and Belobaba 1982). Like disaster planning, the problems are not just technical but organizational in nature. Emergency managers can borrow the planning profession's process for discussing divergent and sometimes conflicting views of disaster problems. As planners, we can learn from the lessons of disaster management and apply them to a much broader range of "crisis" situations to which our localities are vulnerable.

Notes

1. This mini-case-study is based on remarks made by Wichita Falls former city manager at the National Emergency Training Center on August 22, 1984.

articulating the strategic assumptions

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organizational elements

planning for the unfamiliar

Book Reviews

Civil Rights: Rhetoric or Reality

Thomas Sowell

The State Against Blacks

Walter Williams

Housing and Urban Development in the U.S.S.R.

Gregory D. Andresz

Civil Rights: Rhetoric or Reality? Thomas Sowell, William Morrow and Company: New York (1984) and **The State Against Blacks**, Walter Williams, New Press: New York (1982).

Civil Rights: Rhetoric or Reality? by Thomas Sowell and **The State Against Blacks** by Walter Williams have very little, if anything, to do with planning. Yet, the implications they have for planners and the planning profession are staggering. Drs. Sowell and Williams, both conservative black economists, have directly challenged the major themes that have long guided urban and civil rights policy, as well as the responses of planners and others to those policies. In the process, the two authors have succinctly turned the conventional wisdoms of the liberal welfare state on its head.

In his examination of civil rights legislation and judicial history, Sowell argues that government has been unable to translate its intentions into action. Wilson goes even further: Government initiatives have actually hampered the economic improvement of the disadvantaged.

Dr. Sowell's book is not an attack on civil rights, although he is considered a pariah within the civil rights community. What Sowell does criticize is the shift from civil rights as a means to insure equal opportunity without regard to race, creed, or gender, to a method of enforcing equality of group results as is manifest through affirmative action, quotas, and comparable worth. The criticisms of legislative and, sometimes, judicial activities that Sowell lays out in his latest work stem, in part, from his earlier

writings which examine group results in the context of cultural traits. His belief is that cultural habits and traits, not 'discrimination,' are the primary cause of disparities in group results. Legislation that focuses only on results and not the correct causes is doomed to fail.

Sowell challenges the statistical disparities in income and employment that are used to make the sweeping generalization of rampant discrimination. Age, education, and geographical distribution barely scratch the surface of group differences. They are, Sowell contends, merely more quantifiable. What is needed is inclusion of a far more qualitative analysis of factors such as cultural attitudes towards education, discipline, and work habits. An example Sowell is fond of using is the disparities between West Indian blacks who have immigrated to the U.S. and American blacks who have migrated to the North. Race alone cannot explain the rather stark income and employment differences, not only among those in the first generation, but their children and grandchildren, as well. As anathema to the civil rights vision as that may be, Sowell's contentions and supporting data make a strong case.

Williams is even more critical of government intervention than Sowell. As his thesis states:

The government laws that have proven most devastating for many blacks are those that govern economic activity. The laws are not discriminatory in the sense that they are aimed specifically at blacks. But they are discriminatory in that they deny full opportunity

Brad Torgan is a Master's candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill.

turning the welfare state on its head

government has been unable to translate its intentions into actions

to the most disadvantaged Americans, among whom blacks are disproportionately represented.

The specific arguments supporting his thesis are especially convincing, especially with regard to entry barriers within low-skill industries. For example, the taxicab industry should not, in theory, be outrageously expensive. One needs a car, a map, a meter, and might perhaps be required to pay a small licensing and inspection fee. Yet, in most major metropolitan areas, entry is sharply curtailed, especially to the economically disadvantaged. New York, for example, requires a medallion to legally operate a taxicab though none have been issued since they were first granted free in the 1930s. Those medallions are now worth over \$60,000. The prohibitive entry costs result in a very limited availability of medallion cabs in Manhattan at rush hour or at any time in the poorer areas of the city. Washington, D.C. on the other hand, only requires a \$25 dollar license fee. The competitive dynamics of the Washington market are plainly evident in the vast supply and convenience of cab transportation.

Williams also makes a strong case against occupational licensing restrictions for plumbers and electricians. He argues that service costs are artificially inflated and, more importantly, services are denied low income residents as a result of the monopoly behavior of occupation restrictions. A major objective of the restrictions, according to Williams, is to restrict blacks from participating in the market. He argues, furthermore, that by eliminating wage differentials and floor wage rates, people are able to make employment decisions on the basis of non-economic factors such as racial discrimination.

If there is a weakness to the two works, it lies in their implicit contentions concerning solutions to the problems at hand: 1) eliminate all restrictions, and 2) reverse the offending court cases. Such simplistic solutions neither improve economic conditions for blacks nor advance contemporary thinking on civil rights issues. In fact, these solutions suggest a denial of the problem in toto. After critiquing existing civil rights measures, the authors never attempt to offer more effective means of government intervention. Strategies for advancing the welfare of disadvantaged minorities are given cursory attention. Whether this omission belies the authors' true concern for minority welfare is debatable. Instead, what seems apparent is a failure in the authors' arguments; a failure common to welfare policy analysts

who attempt to assign principles of conservatism to a context of a market failure.

The value of these works thus lies not in their implied solutions and/or recommendations, but in their honest critique of liberal government's inability to resolve the wide disparities between economic groups and between races. One may not agree with *Civil Rights: Rhetoric or Reality?* and *The State Against Blacks*, but the analysis and evaluation they present are so forceful that policy makers throughout the country must at least appreciate their general concerns.

Housing and Urban Development in the USSR by Gregory D. Andrusz, SUNY Series in Urban Public Policy, State University of New York Press, 1985. 400 pp. \$14.95 paper, \$39.50 cloth.

Many American planners are unfamiliar with the profession's practice outside the continent. What problems do planners in the United States share with planners elsewhere? How important is governmental structure in dictating the planners role? Are the same trends in planning shared by other industrialized nations? How are other governments dealing with these trends?

Gregory D. Andrusz' thorough account of housing and urban development in the Soviet Union is a proper starting place for those interested in such international planning questions.

Planners, at one time or another, wistfully reflect on how different things would be if we could carry out to the fullest our carefully formulated plans. Yet, for good or ill, we live in a society that puts a premium on individualism. Capitalism is the yardstick by which a planner's actions are measured. Our power is limited to the degree to which we can infringe on individual rights of property ownership, freedom of expression, and home rule. If these limits were not in place, might we be able to implement more effectively?

Andrusz carefully paints a picture of a country with a completely different political system. He details the manner in which the Soviet Union has tried to resolve the problem of housing its citizenry. The portrait that emerges reveals some startling similarities and differences to the U.S. system. For example, in an account of the private housing sector, the author points out that private ownership and home building were actually encouraged by the Soviet

offering meager solutions

Laura Bachle is a Master's candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill.

the influence of individualism

an admission of failure



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government even though the practice was contrary to the tenets of Marxism. Even more surprising, the individuals who chose to own their homes were not from the upper class of Russian culture, but recent peasants and country immigrants. The cultural association of lower class households in privately owned homes has placed individual home ownership in low esteem; those of a better situation prefer high rises close to the central city.

Perhaps the most instructive chapters involve an assessment of urban policy effects on the development process. Clearly, the Soviet Union is not afraid to jump into housing with both feet. Indeed, the very nature of socialism dictates the government's involvement. But there is still squabbling over which level of government is in charge of what, and which policy should be adopted. Coordination among agencies — long the bureaucratic battle cry of the western world — has not been resolved in the U.S.S.R.

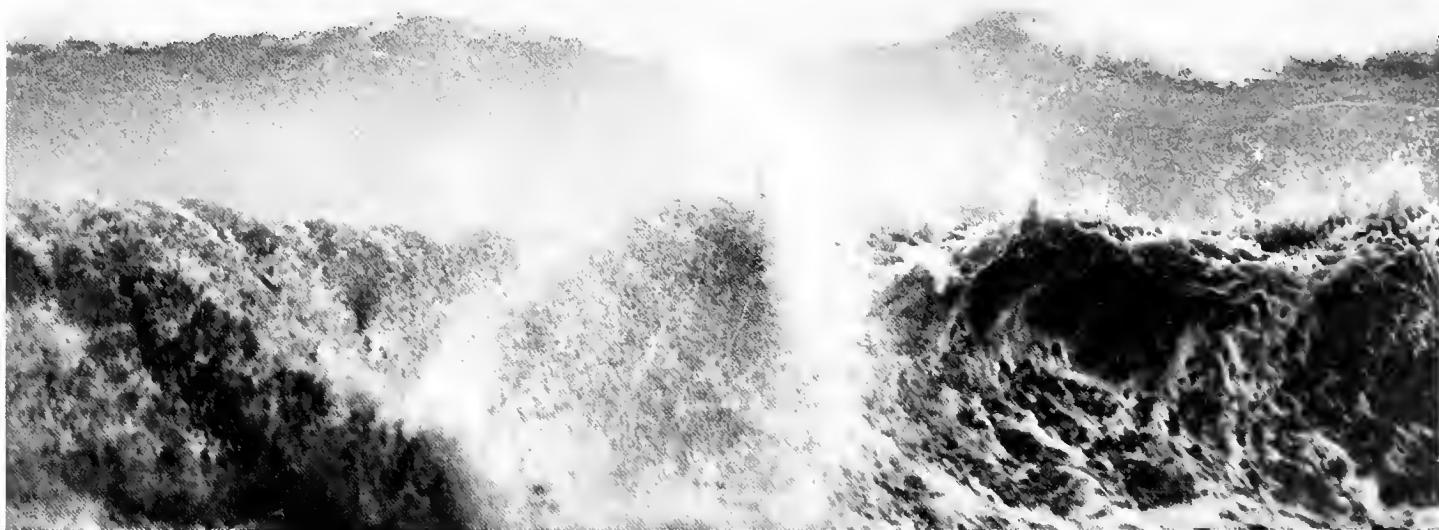
The reader may be surprised at the kind of data Andrusz' has gathered to support his conclusions. Specifically, the book is filled with detailed cases of housing programs and policies which realized marginal success or failed entirely. This admission of failure is perhaps the most remarkable aspect of the study. Sensitive to the health and viability of Soviet socialism, Andrusz' discussion seems a frank and rather detached appraisal of the nation's progress in housing development.

The book, though lengthy and of a scholarly stamp, is worthy of attention by those who seek some understanding of alternative planning processes. The author presents a detailed analysis of housing conditions and the effect of certain policies on urban development, but it is left to the reader to measure the Soviets' ultimate success. In most cases, the author compares the Soviet housing with conditions in the United Kingdom. For many Americans, it is hard to appreciate these comparisons without some familiarity with English town planning.

All in all, the book is not entertaining reading. It is not meant to be. It is, however, food for thought which will expand the international awareness of western planners and policy analysts. In the void of socialist planning literature, **Housing and Urban Development in the USSR** is an important contribution.

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